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Space Technology Cooperation Accord Signed With ROK

*OW0207002093 Beijing XINHUA in English
1559 GMT 1 Jul 93*

[Text] Seoul, July 1 (XINHUA)—The China Research Institute of Space Technology and the Korea Aerospace Research Institute signed a memorandum of understanding on aerospace technology cooperation here Thursday [1 July].

China Aerospace Corporation President Liu Jiyuan and Korean Science Minister Kim Si-joong attended the signing ceremony.

Under the document, the two institutes will set up cooperation channels to exchange space technology and related information and boost cooperation in aerospace industry between the two countries.

They will also exchange satellite designers to get started on the research on a low-orbit satellite.

Both sides have decided to meet every year for efficient execution of their agreement.

Ministry Spokesman Reiterates Stand on Nuclear Testing

*OW0507094793 Beijing XINHUA in English
0935 GMT 5 Jul 93*

[Text] Beijing, July 5 (XINHUA)—A spokesman for the Chinese Foreign Ministry today reiterated China's stand on nuclear test in response to the United States extension of nuclear test ban.

U.S. President Bill Clinton announced Saturday [3 July] the U.S. would extend the time limit of halting nuclear bomb tests to October 1, 1994.

The spokesman was asked how China will react to the announcement to which major nuclear states have made reactions.

The spokesman said: "China has always stood for a complete prohibition of nuclear tests within the framework of complete prohibition and thorough destruction of nuclear weapons."

"China has all along exercised much restraint in nuclear testing, and the number of its nuclear tests has been the smallest among the five nuclear states," the spokesman added.

The five nuclear states are Britain, China, France, Russia and the United States.

AUSTRALIA

Canberra Supports Chemical Weapons Control
BK0807141393 Sydney THE AUSTRALIAN in English
25 Jun 93 p 18

[Editorial entitled: "Outlawing Chemical Weaponry"]

[Text] Surprisingly little publicity has greeted an Australian diplomatic coup: the achievement of international support for the imposition of export controls on the components of chemical and biological weapons and the equipment needed to activate them. Initiated in Canberra and known as the Australia Group, it coordinates the support of 24 countries crucial to the ultimate control of such weaponry, representing 80 percent of the world's chemical suppliers. These export controls are far-reaching. They make it more difficult, if not impossible, for countries eager to produce such weaponry to achieve their purpose.

Australia's role has been widely appreciated. For a nation often characterized as minor, our voice has been heard on a most serious question, brought into high relief by the eight-year Iran-Iraq War, in which chemical weapons were used to devastating effect. Australia was deeply involved in the aftermath of that conflict, when we provided army personnel as United Nations truce observers. Their verification of Iraq's use of chemical weapons against Iran was the catalyst for Australia's concern.

Under both the foreign affairs ministry of Mr. Bill Hayden and his successor, Senator Gareth Evans, a consistent policy has been pursued. Appreciating the

need to avoid the proliferation of chemical weapons in our own region, they understood its global implications. Cooperation with industry and its trade in sensitive items were vital elements in achieving controls.

Our support for chemical weapons control has gone further than obtaining verbal agreement, although there is no written or binding treaty among the members of the Australia Group. It has been self-regulatory but strongly symbolic. We have been joined by like-minded countries, which include the Nordic group, the European Community, Canada, Hungary, Argentina, and Japan. We have both chaired and funded the secretariat of the Australia Group, established in 1985, and have the concurrence of major chemical suppliers, including the United States, Germany, and Japan.

If the main focus of concern at present is the Middle East and the Indian subcontinent, there is little doubt the temptation to use chemical weaponry will always be an option in the minds of desperate States or groups indifferent to human suffering and contemptuous of human life. The use of mustard gas in World War I and in Abyssinia, now Ethiopia, in 1936 destroyed lives far beyond the heat of the battleground. Veterans suffered lifetime injury.

It is hoped the convention on chemical weapons will be consolidated in 1995, setting an agenda for control that will bring errant nations into the fold of international cooperation. The intransigence of some nations, notably in the Middle East, is largely due to mutual fear. But the pressure of world opinion, codified by an impressive treaty, should go some way towards making the world safer.

ISRAEL

Analysis of U.S.-Israeli Strategic Cooperation
93AA0076Y Tel Aviv HA'ARETZ in Hebrew
19 May 93 p B1

[Article by Ze'ev Schiff: "Cooperation, Ltd."]

[Text] The 19th meeting of the Israeli and United States teams on strategic cooperation between the two countries ended recently in the United States. This was also the first meeting since the Clinton administration took over. This time, it was Assistant Secretary of State Robert Galucci who sat opposite Defense Ministry General Director David Ivri. For some reason, the meeting took place this time outside the capital, with the teams gathering in Annapolis. Usually, little of the contents of the talks is published.

To further obscure what was happening behind the curtains, a new method was utilized, of discussions with the whole committees present, as well as a special meeting of a group of committee heads: that is, Ivri, Galucci, and their aides.

Despite the ups and downs in the relations between the two countries, everyone involved agrees on the great contribution strategic cooperation makes, especially to Israel. In Washington, there are indeed some who ask what Israel's strategic value for the United States really is, but even those who think that the military component in this partnership has lessened do not doubt the importance of the special tie. Much has been written about the importance of the strategic partnership. And still, there remain several topics on which there are differences of opinion between Israel and the United States.

First, some background on the 19th meeting. When the Bush administration left, the promise that the United States would station additional military equipment worth 200 million dollars in Israel was left hanging. The Clinton administration has made a commitment to carry this out in 1993. Another promise, more important despite its general formulation, which Clinton gave Rabin during his visit to Washington was that the strategic partnership would deepen. There was discussion of setting up a joint committee for technology topics, and of regular meetings between the secretary of defense and the defense minister twice a year.

Israel's main complaint centers on weapons inspection. She agreed to Washington's appeals on this subject, yet has been bitterly disappointed. In January of this year, Israel signed the International Covenant for the Prevention of the Production and Storage of Chemical Weapons.

The Americans said that Israel would benefit from this, but the beginning has not been very promising.

Not one of the blocs wants Israel; they all reject her. This is true of Europe too, where the British lead the opposition to Israel. The Arabs for the most part have still not signed the covenant, and are trying as usual to create a tie between it and the question of nuclear weapons. Ivri said to the Americans that Israel is like a ball being kicked from playing field to playing field. This, of course, is a lesson for the future.

Simultaneously, Israel is having another argument with Washington. She agreed to the demand to sign the MTCR [Missile Technology Control Regime], yet is still not accepted as a full member in the group of signers. In addition, Israel is limited in the United States too.

According to state department directives, Israeli companies are not included in civilian calls for bids on projects having to do with space or missile launchers. The topic was brought up in the discussions in Annapolis and included an example our aeronautical industry is involved in. Although this is not resolved, Israel has joined the arrangement for United Nations management of international registry of weapons transactions. This arrangement came into force last month, and Israel intends to report for the first time on her weapons export and import transactions, hoping again that her positive approach will not be used against her.

Another major complaint Israel has is connected to the U.S. rejection of her requests to acquire various technologies that have already been sold to others. The former secretary of defense, Richard Cheney, had already promised Prime Minister Yitzhak Rabin that Israel's position would be comparable to NATO's in everything connected to freeing advanced technology. President Bill Clinton spoke of expanding the technological partnership, but now it is turning out that there are areas where the promise is more like a campaign slogan.

This is too important a question to be left to bureaucrats, for it touches on the vital subject of preserving the quality gap in Israel's favor. This is a commitment that several presidents, including Clinton, have taken upon themselves, and it takes on a more acute dimension in light of the tremendous American arms sales in the region.

Following are examples of several U.S. rejections. Radar weapons control for F-16s: they refused to sell Israel vital components for certain programs that pilots have difficulty flying without. Washington refuses to sell Cray supercomputers to university research centers in Israel, although they have been sold to Saudi Arabia and East European countries. They also refuse to sell programs for upgrading the AB supercomputers and digital computers our military already has.

Another refusal has to do with up-to-date software for artillery radar used in locating enemy batteries. To this, we should add the refusal to sell various armaments, including to the navy. What is irritating is the fact that the Americans are sometimes conditioning freeing various systems on our agreement to exceedingly careful

inspection of Israeli arms sales. They are insisting not only on inspection of U.S. components in Israeli equipment for export, but also on inspection of the Israeli components in these weapons systems. In the last matter, Israel has decided not to yield, and rightly so.

There are other points of disagreement, all smaller, many due to the cutbacks in the U.S. security budget. Among them is the refusal of the branches of the U.S. military to carry out Congress's promise to store a large supply of fuel (200,000 barrels) in Israel, or to share in the expenses of transporting U.S. equipment that will be stored here. The cutbacks in the U.S. budget will lead to limiting joint exercises, but not only with Israel. And again, emphasizing the things we disagree on should not lead to the mistaken conclusion that strategic cooperation has run aground. It is really the opposite, but it is important to get rid of the weeds.

Nuclear Disarmament Said Second to Peace Talks

*93AA0076Z Tel Aviv HA'ARETZ in Hebrew
21 May 93 p B2*

[Summary of study done by Dr. Ari'el Loite and Emily Landau, by Aluf Ben; "Waiting for Declarations From Israel"; first two paragraphs are HA'ARETZ introduction]

[Text] The Arab world's reaction to Israel's nuclearization has not been uniform, but whether its importance has been downplayed—or been related to with the greatest seriousness—it has not been considered the main problem in the dispute with Israel. This is the main conclusion of a new study based on materials published in the Arab countries.

Israel's nuclear capacity is seen as a serious problem by the Arabs, but it is not the most important aspect of the dispute with her; its place is secondary compared to the problems of the territories and the Palestinians. This is the main conclusion of the new study, "Israel's Nuclear Image in Arab eyes," carried out by Dr. Ari'el Loite and Emily Landau of the Center for Strategic Studies at Tel Aviv University. The study's findings, which will be appearing shortly in book form, were presented this week at the Center's conference, which was dedicated to the topic of nuclear weapons dissemination in the Near East.

The study, which lasted four years, is based entirely on materials that have appeared publicly in Arab countries. Loite and Landau scanned thousands of publications that have appeared in the Arab media since December 1960, the time the nuclear reactor project at Dimona was revealed. They also met with Arab academics who are studying the dispute.

These Arab publications evince no doubt that Israel has nuclear weapons. A few limited circles already believed after the Six-Day War that the bomb was in Israel's arsenal, but the opinion that Israel had crossed the nuclear threshold became set in Arab awareness only

after the Yom Kippur War. It has been considered an accomplished fact ever since.

The Arabs explain Israel's entrance into the military nuclear realm in three ways, no single one of which is dominant, according to the study:

- **The great power context:** Israel has been directing its nuclear activity toward the great powers to extort aid, force a cease-fire in the war, avert Soviet interference in the region, ensure strategic cooperation with the United States, and avoid dependency on the great powers.
- **The regional context:** Israel has been working to deter the Arabs from a war of annihilation against her, freeze the conflict, and improve her position in the Near East—through territorial expansion, suppression of the Palestinians, perfecting qualitative superiority, and keeping the Arabs from achieving nuclear capacity.
- **The internal context:** the Arab publications identify a certain phenomenon: Israel's approach to the atom has changed depending on how secure its population has felt at different times throughout the history of the state. Israel's "muted responses" when it comes to her nuclear weaponry, saying things like "We will not be the first to introduce nuclear weapons into the Near East," have tended to be less muted in times when the public has felt less secure.

After the Yom Kippur War, Israeli leaders made statements that were interpreted within the Arab countries as an attempt to calm the public with the help of the final and absolute deterrent. The Arabs point to a similar attempt to raise the Israeli public's sense of security after the intifadah began.

The Arabs identify in Israel a "muted" nuclear policy, undeclared and mainly meant as a deterrent. In the 1980's, after the bombing of Iraq's nuclear reactor, they spoke in the Arab countries of the stubborn Israeli decision to make sure it remains the only nuclear state in the Near East, and deprive the Arabs of nuclear capacity. This policy is dubbed the "Begin Doctrine" or the "Sharon Doctrine."

The Arab publications agree that Israel could very well use its atomic weapons in the event that its survival was threatened. It is hard to define a threat to survival, but the Arabs talk about bursting the boundaries of the Green Line into Israel, and causing serious civilian casualties. A more extreme minority estimates that Israel would use nuclear weapons in other circumstances as well—for example, as the answer to a chemical or biological attack, or even as a nuclear preventive strike. According to the Arab evaluation, the Israelis will try to destroy population centers and strategic sites in Arab countries.

The reaction of the Arab countries to what seems to them like a nuclear power developing outside their borders has changed over the years. In the 1960's, after the revelation that the reactor was being built in Dimona, the Arabs

tended to put pressure on Israel through the great powers and to threaten a preventive war to stop the Israeli program. The Egyptians even prepared to attack and destroy Dimona to halt the project, assuming that Israel would be crossing "the critical threshold" of production of fissionable matter for atomic weapons in 1967-68. The Egyptians determined the "threshold point" through simple mathematic calculations of plutonium production.

After the defeat in the Six-Day War, the nuclear problem dropped from the headlines in the Arab world, either because conventional weapons had become more important or because of the feeling that the Arabs had already missed the boat. The Yom Kippur War brought the subject back into Arab public awareness, estimating that the shock Israel had absorbed would lead it to rely more on its nuclear option and wear down the "muteness." Mordekhai Vanunu's revelations near the end of 1986 were interpreted within the Arab states as an Israeli plot to humiliate the Arabs, who did not have nuclear capability. Saddam Husayn's threats in April 1990 that he had the capacity to burn up half of Israel, and the uncovering of the Iraqi program after the Gulf War, reawakened discussion of the danger of nuclearization of the Near East and the relation between the demilitarization of Iran, Iraq, and Israel.

Loite and Landau identified two approaches in the Arab publications as to what the best Arab response to the Israeli atom should be. One school of thought tried to downplay the importance of the matter, claiming that the atomic demon is not so terrible. They gave many arguments to prove this: The Near East is small, whoever uses nuclear arms will harm himself as well; the Vietnam War proved that there is a world order and there are rules for behavior, and Israel will not use nuclear weapons for fear of a harsh response by the great powers; the Arabs have no intention of threatening Israel's survival, and therefore have no need to fear a nuclear response; the existence of an Arab deterrent capability, even if it is weaker, will still lessen Israel's nuclear motivation.

The second school of thought took the opposite approach, according to which Israeli nuclear activities should be looked upon with the greatest seriousness. The spokesmen for this approach argued that Israel is using its bomb to humiliate and dominate the Arabs and to get American aid. In the most recent period, they have been complaining that Israel is dragging other countries in the area after her, and saying that Israel should be treated the same way as Iran and Iraq. According to Loite, the second school of thought has also created a relationship between the peace-process and nuclear deterrence, on two levels: The Arabs have no choice but to resign themselves to Israel's existence, because they cannot conquer her: Israel, on her side, can afford to give up the territories, because she has the ultimate deterrent in her hands.

In his lecture this week, Loite described the approach of the Arab leaders to their nuclear neighbor as "balanced and rational." Presidents Gamal Abdel Nassar, Anwar al-Sadat, Hosni Mubarak, Hafiz al-Assad, and King Husayn tried to define the "rules of the nuclear game" in the Near East: as long as Israel stays with the muted "option" (that is, does not openly announce that it has nuclear weapons), which is meant for possible use only if her survival is threatened, it is possible to live with that, in the hope that as the peace process progresses, Israel will agree to dismantle its nuclear weapons at some time in the future. Rulers who had territorial claims against Israel tended to put them first. Egypt, on the other hand, which has already taken care of its territorial question, emphasizes denuclearization.

Unofficial Arab factors took a different approach from that of their rulers, especially in the last few years, and expressed their displeasure with the West, which is working to keep unconventional capacity away from the Arabs and Iran and closing their eyes when it comes to Israel.

According to the study, it is clear to the Arabs that in an age of Israeli nuclear monopoly in the Near East, they have no military way to threaten Israel's survival. The evaluation became set after the Yom Kippur War. The dream of a war of extermination against Israel, which they had talked about before 1967, makes no sense when Israel is the only one with the bomb. The Arabs have concluded that there are four possible lines of action:

- Limited military steps against Israel, as in the Yom Kippur war, which was al-Sadat's and al-Assad's conception.
- A struggle with Israel "beneath the nuclear threshold" through an uprising in the territories—Palestinian thinkers were already saying this in the early 1970's, long years before the intifada began.
- Development of comparable nuclear capacity on the Arab side.
- There is no escape from a diplomatic initiative for a solution to the conflict. This is the Egyptian approach, which explains that in addition to its nuclear power, Israel also has conventional strength and American support.

The Arabs greatly doubt that their developing nuclear weapons would neutralize Israel's superiority. Most of them feel that a situation where only some Arab countries have nuclear capability is not to be preferred.

Summing up, Loite said that the Arabs express two lines of thought: resignation to the fact of Israel's existence and pressing for a diplomatic process, alongside a feeling that it will be hard to reach this unless there is also a solution to the problems of nuclearization of the region and demilitarization of Israel. The Arabs tend, therefore, to look for declarations from Israel on the question of the general dismantling of nuclear weapons in the Near East, as part of the framework of future settlements.

GENERAL

Nuclear Weapons Scientist Litvinov Interviewed

*93WC0084A Moscow DELOVOY MIR in Russian
13 May 93 p 13*

[Interview with B. Litvinov, chief designer at Chelyabinsk-70, by V. Gubarev, at Chelyabinsk-70; date not given: "Lesson in Courage and Optimism. Chief Designer at Chelyabinsk-70 Boris Litvinov on Fate of Nuclear Weapons, on Industrial Explosives and the Future"]

[Text] Our conversation with Litvinov took place late in the evening. As usual, literally every minute of his day was filled. Meetings with testers, discussions of the technical assignment, acquaintance with new coworkers, three telephone conversations with Moscow, two conferences in his office and one with the management. In addition to that, there were several unplanned discussions, visits to one of the laboratories, to which he was urgently summoned, and finally dinner at home where we were waiting for him.

What is most surprising, however, is that the first event on the agenda of the chief designer of Chelyabinsk-70 was a meeting with 11th grade students at the 126th School in the city of Snezhinsk. I was surprised that Boris Vasilyevich not only remembered about the school, but, it turns out, also thoroughly prepared himself for the "chief designer's lesson," as he later christened that encounter. That night he prepared the text of his presentation, polishing each word, even though it is common knowledge in Chelyabinsk-70 that Litvinov does not speak "from paper," and of course, he never did remove the notes from his pocket during the "lesson."

"Boris Vasilyevich, is it possible that you wrote for history books?" I remarked, with slight sarcasm. "For the press, Volodya, for the press," Litvinov replied jokingly.

That remark helped to "cajole" Boris Vasilyevich into giving me that same "paper" he worked on at night. It is a curious document! You can, however, decide for yourself, here it is: "I have spent all of my life since the institute in two cities: Arzamas-16 and Chelyabinsk-70. I sometimes say that I have lived my entire life within the zone and within the law. Until recently neither I nor my friends, our work, or the place of our work were known. Now, however, our city has become known throughout the world. It was visited by the U.S. secretary of state, directors of U.S. atomic laboratories, and scientific workers from leading laboratories in France and China. Personnel from our institute attend nuclear tests for monitoring purposes when they are conducted in the United States at the nuclear test range in Nevada. Our scientists are listened to with interest at the most prestigious international conferences because their reports satisfy the highest scientific requirements and are noted

for their unusual approach to the resolution of complex contemporary problems, clever solutions, and fine experimentation."

"These achievements are inconceivable without the selfless work of our parents, older sisters, and brothers. Their work at present is really difficult. The institute existed throughout 1992 on credit, paying its personnel on an irregular basis, and receiving materials and energy for the most important projects on credit. Still, many are filled with confidence and optimism. What gives us strength? The firm conviction that we are needed and important to the country, to Russia. This confidence stems from the fact that in the modern world, just as many years ago, nuclear weapons continue to play a stabilizing role. There is still a need for those who created them and know how to create. It is not a simple task. Mastering them requires plenty of knowledge and skill. Whoever learns that can do any other work." At this point I am temporarily interrupting the lecture of Boris Vasilyevich Litvinov. We will return to it again later. Now, our conversation with the chief designer.

Gubarev: Boris Vasilyevich, you are a Chelyabinsk-70 patriot. Why?

Litvinov: I have always felt convinced that it is possible to conduct scientific work only in small cities such as Pushchino, Chernogolovka, Obninsk, Dubna, Tomsk, Protvino. That is the way it is throughout the world because cities like Moscow are too large—it is very burdensome to engage in scientific work there. When a person spends an hour-and-a-half commuting to work, and then the same amount of time to get home, what talk can there be of science? Remember the main condition set forth by Yakov Borisovich Zeldovich? He said that it is important to go to work and back with pleasure. How is it possible if you spend an hour-and-a-half in the subway or on a bus?

Gubarev: Did you become the chief designer here with pleasure?

Litvinov: That came about of necessity. In 1960 the founder of Chelyabinsk-70, Kiril Ivanovich Shchelkin, decided that the state of his health did not permit him to be the scientific director of the institute, as a result of which he transferred to the Academy of Sciences. Kiril Ivanovich was the scientific director, and at the same time, chief designer. Yevgeniy Ivanovich Zababakhin became director of science, appointing me chief designer. At the same time Yuliy Borisovich Khariton, who combined both jobs, also became scientific director, while Negin and Kocharyants became two chief designers. Our project was expanding and it became difficult to combine jobs.

Gubarev: I cannot believe that just anyone can be appointed chief designer. What did you have to offer by that time?

Litvinov: Five of us arrived at Arzamas-16 as new graduates, so to speak, as the early swallows of such selections. We "entered" that unusual world "directly," and the fate of each one of us turned out normally. In 1954, a year after receiving the diploma, the head of the gas dynamics department, Bobylev, expressed an idea. It sounded improbable, but nevertheless he offered me the opportunity to work on it. By the way, at that time I was already heading a group consisting of two laboratory assistants, one was 16 and the other 17, and also Zhenya Gorbunov, who had just graduated from technical school. That was the team under my command. I already had a casemate at my disposal for work with explosives—we had undergone the appropriate training. The casemate contained highly complex equipment. That is, I am speaking about the atmosphere that existed at the institute in those years, and about trust in the young. We began conducting experiments with explosives, working quite independently. The group grew quickly and increased to 15-20, including even some women. In general I was asked to determine the degree to which the idea proposed by Bobylev was absurd, but it appeared that it was not quite that way. As a result, a new direction appeared. In order to bring it to fruition it was necessary to involve theoreticians and designers, which I did. Actually, an informal collective was working, creating "products" for trials on the test range. I had no rights, I asked no one, somehow everyone believed that the collective was operating under Litvinov's guidance and that he was working on some interesting ideas. I attended conferences and reported on the results. For a long time I was simply the director of that group, and then I became deputy director of the department for scientific research projects. That is what probably served as the basis for my appointment as chief designer.

Gubarev: Evidently they did not make a mistake.

Litvinov: No. That is not the way it was. I really became a chief designer about five years after my appointment.

Gubarev: Still, it is important to remember that Litvinov's name was mentioned in Sakharov's report on the creation of the thermonuclear bomb. In addition to this you also received a medal at that time.

Litvinov: That is true. By the way, my diploma project was the very first one, at the end of the seventies, to be published in Los Alamos.

Gubarev: As something new?

Litvinov: Exactly! Actually it was an old project of a diploma candidate.

Gubarev: You have been chief designer since 1961; what do you have to be proud of?

Litvinov: A chief designer is not supposed to brag, it is better to speak of shortcomings. It is more productive.

Gubarev: Let me pose this question a little differently: What was accomplished by the collective that you head?

Litvinov: Our work is really collective. I am against nicknames such as "father of the bomb," "pater of the blasting charge." It does not happen in that way. Any "product" is the labor of a great number of specialists working together. Our directions were the result of necessity, those problems which constantly occurred. In "the arms race" we were always in the role of those catching up. If one looks at the development of nuclear weapons in general, its primary direction is bombs, that is, a "passive weapon," delivered by aircraft. It is clear that such a weapon is vulnerable inasmuch as it is easy to shoot down an aircraft. Creation of missiles, of course, was a big step forward. With their appearance, all military researchers believe that an upheaval had taken place—nuclear weapons became true weapons, since it was possible to deliver them over vast distances. That, however, in turn gave rise to contradictions because the world became "naked"—after all, any talk of antimissile defenses is unfounded. A sharp turn in the development of military equipment took place in the fifties and sixties inasmuch as the first artificial satellite was launched in 1957. The light-hearted song "We are ahead of the entire planet" had grounds. At that time talk began in America about antimissile defenses, about the creation of a certain shield over America. Warheads of that time were slow and could actually be shot down. The idea then appeared, also in America, of multiple warheads, a missile carrying several warheads which scatter like peas and you do not know where to shoot in order to destroy them. In other words, a qualitative leap took place over there and it was demanded that we do something similar. If we started lagging, we would have actually found ourselves unarmed in the face of that. Our tests of large missiles, the superbomb, and so on, indicated that everything we had was superlarge, while the Americans had small systems which were mobile. We were facing, first of all, a psychological reorientation and then a technical one. All this happened in the mid-sixties, as a result of which we had to enter a new area.

Gubarev: Boris Vasilyevich, we met for the first time at Pamuk. That was many years ago. I know that you were one of the initiators of the program for peaceful uses of nuclear blasts. How did it appear, what are the errors in that program, and what are its achievements? Do you believe that this was a very interesting and important page in the history of our country?

Litvinov: I cannot view myself as one of the pioneers of that program. I will simply remind you that in American literature the report delivered by Vyshinskiy in 1949 at the UN General Assembly is considered a benchmark in peaceful utilization of nuclear blasts. He declared that the nuclear blast set off in the USSR on 29 August would serve industrial goals. Such blasts will be used—here I am quoting almost verbatim—for building canals, extracting useful minerals, and the atom will thereby begin serving to the benefit of mankind. In the name of the USSR, Vyshinskiy appealed to the United States to reveal secrets and jointly begin utilization of nuclear blasts for industry.

Gubarev: Is that so?

Litvinov: It happened. We should know our history. I believe that was Kurchatov's thought. Then the first Geneva conference took place. By the way, it is very interesting for its frankness on our part. Igor Vasilyevich Kurchatov is at the basis of it all. He was trusted by the government so much that his opinion was decisive. He said "it can be done" and there were no objections. Kurchatov thought a lot about the future and could foresee the development of events, including those in the world utilization of nuclear blasts. Yevgeniy Ivanovich Zababakhin supported and developed the idea of their industrial utilization—he is even responsible for a memo for "the summit." Yefim Pavlovich Slavskiy, our minister, was a big supporter of peaceful industrial use of blasts—the Lake Chagan project was carried out on the basis of his idea. I will not deny that I too supported that program of projects in every possible way, developed it, and believed that we are heading in the right direction. The point is that gunpowder at one time was invented for killing, but later it was widely utilized for beneficial purposes. That is a natural application for any invention, including our science. Nuclear blasts have a vast area of scientific application as well, so why must industry and the national economy remain on the sidelines? Therefore such a program in our case began developing in the mid-sixties. One of the factors prompting this was the shift to great depths in the petroleum industry. Formerly operations were carried out at horizons of 2-2.5 kilometers, while the French—they are pioneers—at that time went down to 5-6 kilometers. When we reached those depths accidents started happening. Urtabulak and Pamuk, you saw that, you have been there.

Gubarev: A frightening picture. One feels helpless.

Litvinov: At that time a gas fountain could be tamed only by an even more powerful force. The experiment at Urtabulak, where Arzamas was working (a conventional charge was used there), was successful and well done. We, however, faced less efficient work which was also very nasty. The fountain at Urtabulak was visible, it roared and screamed, whereas at Pamuk the genie was a foul one: the gas filtered through to the "Bukhara horizon," spread and manifested itself in completely unexpected places such as in wells where flocks of sheep gathered for watering, other oil wells, or even out in the open steppe. We had a consultation and decided that we would use none of those "products" that we had, but would create a special charge, a "product" which could be utilized in the future in similar situations. Particularly since projects were already being reviewed for creation of storage capacities, extraction of petroleum, and so on. We created a charge, tested it out on the range, and then the "product" was delivered to Karshinsk Steppe. The blast was to take place at a depth of 2,100 meters, the well was drilled at an angle, and the temperature reached 120 degrees. Suddenly, before the "product" was to be lowered a question arose concerning safety. It was necessary to check whether above-critical state would be

achieved. A unique experiment was carried out—critical mass measurements directly in the steppe. The "product" moved at a speed of 0.1 millimeters per second, and the count went on simultaneously. That was a physics experiment out in the steppe. In general it turned out to be a grandiose event, but everything worked out safely and the work schedule was not disrupted.

Gubarev: In those days we met daily and had long talks, but for some reason you never mentioned that experiment. I recall us sitting next to each other and you were constantly assuring me that nothing of interest was taking place. It turns out that you carry out unique experiments, but we journalists find out about them two decades later. That is not good, comrade state commission chairman!

Litvinov: Let us blame "technological" difficulties. I had a clear order from Moscow: Do not allow Gubarev to get to the "product!" I can imagine what you would have written at that time.

Gubarev: By the way, too many higher-ups read my reporting, as a result of which it appeared in print five-six months late. I have a copy which has about 20 stamps on it, including those of Politburo members.

Litvinov: You just answered your own question as to why I was silent about that experiment. Later you saw everything. How the "product" was lowered, and how the sealing of the well was carried out.

Gubarev: An impressive sight!

Litvinov: Certainly. Some 150 huge cement carriers surrounded the well and began pumping mortar into it. An awful lot of dust. The oil lake bubbles, the cement carriers maneuver around the well—it was necessary to pump two kilometers of mortar. One last scene sticks in my mind: the cement carrier departs, then stops, the drivers catch a stray goat and drag it into their cab. The goat resists as they drag it into the cab. Anyway, they stole a goat within sight of a state commission!

Gubarev: We called the drivers "Basmachi."

Litvinov: Lively lads they were, that's right. They worked very hard. It was a pleasure to watch. The experiment went well.

Gubarev: We were concerned right after the blast.

Litvinov: The lake bubbled for quite a while. That was caused by the remaining gas which was leaking. The yield of the blast was around 30 kilotonnes, we did not take any special measurements. The blast, however, was felt both at Karshy and in Bukhara, which alarmed some people there—after all that is a busy earthquake zone. While we were wrapping up, gathering our belongings, the bubbling in the lake stopped. Normal operations at the Pamuksk deposit resumed shortly thereafter and nothing remained to remind you that the well fire was extinguished with the aid of a nuclear blast.

Gubarev: And after that?

Litvinov: Subsequent operations were carried out in Turkmenia. Then there were a series of experiments with exhausted oil fields. The results were encouraging, and we thought that it would be necessary to work on a broad scale in accordance with the program. We also planned to help other countries as well, those that signed the nuclear nonproliferation treaty but had full rights to utilize industrial nuclear blasts.

Gubarev: Again, America had its say?

Litvinov: Yes. Over there work in the area of oil and gas reached a dead end. Competitors right away played on the feelings of people and society. They used the intimidating word "radioactivity," although in reality it did not exist, thereby scuttling the entire program. Because of that, during negotiations they proposed that utilization of nuclear blasts for peaceful purposes be banned altogether.

Gubarev: Totally?

Litvinov: At first, yes. The point is that two directions had formed by that time. Camouflet blasts, that is, ones at great depths, which make it possible to forget about radioactivity and so-called "excavation" projects, that is, those involving deposits, dams, and so on. After brief discussion the Americans agreed that such a move is unwise and in 1976 a treaty appeared concerning the utilization of camouflet blasts. "Discharge" blasts were prohibited even though there were already many plans including "excavations" and special "products" had been created. I am speaking about so-called "clean charges."

Gubarev: Is that possible?

Litvinov: We obtained highly reliable and promising results. In order to make it understandable, I will explain the idea in a few words. Most of the "dirt" is contained in the fission reaction and is carried by fission fragments. For "purification" it is necessary to sharply diminish the number of fission fragments. As commonly known, fusion reactions generate helium atoms—they pose no threat. The only thing is that neutrons also appear in the fusion reaction which activate surrounding rock, that is atomic reactions take place and radioactive isotopes appear. But it is always possible to select an "environment" which will either decrease that energy or form short-lived isotopes. We conducted extensive research in that direction jointly with institutes of the Academy of Sciences and other organizations. As a result we can say with certainty that even very powerful "products" will have a negligible side effect. Actually, we are speaking about truly "clean charges."

Gubarev: That sounds like science fiction!

Litvinov: We have to work on it for decades. Several original ideas have appeared. Of course, that would not be the creation of a harbor, as dreamt by the Americans, and not even the shifting of northern river drainage as

proposed by some of us, but still, in my opinion, a good plan for the excavation of the Udokan copper deposit was created. If we had carried it out, conducted the excavation work before the appearance of BAM [Baykal-Amur Trunk Line], the building of that railway line would be justified today. Of course, that is a grandiose project and mankind will not be able to carry out such projects in the near future, but I feel convinced that failure to carry out "excavation" operations in Udokan with the aid of nuclear blasts is one of the great missed opportunities. The brakes were applied on the assimilation of those regions of Siberia, delaying them for many decades.

Gubarev: Those were extensive plans?

Litvinov: They were realistic. We created very good "machinery" for their realization—new "products" adapted for various conditions. Later we showed them to the Americans, who merely regretted that the program could not be continued and admitted that they have nothing like this now or had in the past, that is, they were unable to reach such a high level in the development of that kind of "peaceful products."

Gubarev: Why was that program nevertheless halted and then discontinued?

Litvinov: Chernobyl, of course, had the greatest influence. People started searching for radiation and other horrors throughout the country. Naturally talk started about industrial blasts. What is characteristic is that findings of radiation occurred at locations where we had not worked and no industrial blasts were set off. We, however, were blamed for everything.

Gubarev: Tell me frankly and exactly, how many industrial blasts were set off?

Litvinov: This is not a secret. There were 128 industrial blasts, two of them with discharge—an experimental blast in the vicinity of a canal and a lake. One for swelling, which was an attempt to create a dam, while the rest were camouflet blasts. They included a series of low-power geophysical blasts at great depths, which made it possible to create a geological portrait of the country. If photographs from space are added, it is then possible to reveal geological peculiarities, and consequently carry out a purposeful search for useful minerals. Unfortunately that priceless data has not been fully processed.

Gubarev: Still, the effect is rather pronounced?

Litvinov: Of course. I will cite just one example. As early as before the war geologists thought of creating a profile from Taganrog to Vologda. The first blast was set off, about 100 kilograms were detonated, but then the war started. Work was restarted in 1946, and from then until 1968 they were only able to reach Ryazan. This involves very painstaking research. We processed the entire remaining area with a single blast, which would have taken about 10 years to cover using conventional methods. At any rate, the effect is obvious.

Gubarev: I attended several experiments on the creation of underground storage areas. Tell me about results achieved in that direction?

Litvinov: Blasts in salt beds, the thickness of which reaches 1.5 kilometers in the region of the Caspian Sea, were successful. Salt is a remarkable material. It is highly plastic. A spherical pocket forms after the explosion. A 10 kilotonne blast creates about 50,000 cubic meters of space, into which anything can be pumped.

Gubarev: Except water?

Litvinov: Water too. It will not go far. The salt becomes saturated and the water will stay. Such pockets are particularly suitable for storage of liquefied gas because it is then unnecessary to build expensive and dangerous surface storage facilities.

Gubarev: What about apatites?

Litvinov: I have two pieces, they are from there.

Ore crushing is also a promising direction. We set off two blasts, there was no activity, while the efficiency was great. These projects were also discontinued for political reasons.

Gubarev: Your conclusion?

Litvinov: Work could be found for the industrial use of nuclear blasts. In the current situation, however, it is impossible to conduct them.

Gubarev: Thus 128 blasts were set off. You checked them for activity? Or, is it possible that you "recontaminated" the entire country?

Litvinov: Of course, we checked. Not we but a large number of institutes and establishments. Monitoring was carried out everywhere, and very thoroughly. We are not our own enemies! Monitoring is still being conducted at all sites. I will say frankly that five blasts were unsuccessful as there were some discharges recorded. But the point is that from such depths discharges are very limited, amounting to approximately 1 percent of total activity.

Gubarev: This means the campaign that is currently under way within the country has no basis in fact?

Litvinov: With respect to industrial nuclear blasts it is unfounded.

Gubarev: Many are talking about Stavropol?

Litvinov: Absolutely clean! Something else did happen over there. When we attempted to seal the well it turned out that there was no cement. The entire KGB became agitated—what happened to it? That cement existed, but it was in walkways, in walls of homes—in general, all the cement had been stolen. This was the only flap that occurred there.

Gubarev: We have spoken of industry, but so far not about science. Is that science fiction?

Litvinov: I am quoting for you: "Science fiction in blueprints!" Those are not my own words but those of Sergey Pavlovich Korolev.

It is possible to recreate the stuff of stars, to trace the evolution of stars. I believe that it is not necessary to dwell on the scientific significance of such projects—that is one of the fundamental tasks of science. In January 1993 a conference on protection against asteroids took place in California. Let us recall the Tungus meteorite. Such a threat to earth does exist, its probability and exact dates are another matter. The Tungus meteorite fell in the taiga, but just imagine if that was Moscow or New York? In general such a meteorite could have caused considerable mischief. With the aid of nuclear blasts it is possible to eliminate that threat. But, of course, everyone must work together—we, the French, British, Chinese. I can say with certainty that the problem of outer space can be studied with the help of nuclear blasts. High pressures make it possible to create new substances and so on. There is a vast area of application and there is enough work for scientists in different countries. It is necessary to understand that mankind has developed a great fear of the nuclear bomb. This is substantiated. Nuclear scientists have trouble convincing people they are normal and are working honestly. There is fear and mistrust. That is the world we are living in today. Anyway, I have an utopian proposal: Transfer all of our work under UN control.

Gubarev: Why is that utopian?

Litvinov: Mankind will not part with nuclear weapons for a long time. It is too big a stick! It is true that there is no clarity as to how it is to be used, but it exists, such is reality.[end Litvinov]

At this point I will interrupt our conversation with Boris Vasilyevich Litvinov and return again to the lecture read by him to students at the 126th School in the city of Chelyabinsk-70. The chief designer said:

"There is no doubt that the development of contemporary society is closely linked with the development of power engineering, in which an ever growing role will be played by nuclear power engineering. Our experience and ability is well suited for the resolution of that problem. The institute has already been included in the fulfillment of certain major nuclear energy programs. They include determination of the possible consequences of such major accidents as the interaction of uranium fuel with liquid sodium, which is the heat-transfer agent in fast-neutron reactors. Such reactors are very promising inasmuch as it is possible to use not only uranium in them but also plutonium, including that extracted from nuclear warheads. Extensive work remains to be done in the determination of nuclear-physical constants without which it is impossible to resolve the problem of a cardinal method for destroying radioactive waste of nuclear electric power stations."

"We became involved in major programs for the creation of thermonuclear installations of the Tokomak type and installations with lasers."

"Concern for power engineering is impossible without concern for ecology. A unique research complex was created at our institute. So far it is probably the only one in the world with a collection of all the modern geophysical instruments linked by the most modern mathematical program. With the help of that, complex studies are currently being conducted of the radioactive trace of the accident at the Mayak Chemical Combine which occurred in 1957, the Techa River is being studied, along with individual regions of Sverdlovsk Oblast."

"We have many such 'conversion' directions. Excellent results have already been obtained, of which Russia can be justifiably proud. Naturally this work will develop and new designers will therefore be needed along with specialists in the field of solid-state physics, combustion, and detonation, as well as electronics engineers, programmers, mathematicians, and process engineers."

"Ostap Bender promised chess players in a small Volga town called Vasyuki that he would transform their town into the chess capital of the world without any substantiation, but our wonderful city has every opportunity of becoming a modern technical center."

That is how Boris Vasilyevich Litvinov, chief designer of nuclear and hydrogen warheads of Chelyabinsk-70, ended his lecture to the young students.

Is he a visionary, a day-dreamer?

Of course. But it is specifically people like Litvinov and his colleagues who transformed a dream into reality over the past half century. Not just anywhere, not in the distant future, but right here, in such scientific centers as Arzamas-16 and Chelyabinsk-70.

Russian Government Stresses High Accuracy Weapons

LD0607155193 Moscow Radio Moscow World Service
in English 1500 GMT 6 Jul 93

[Text] Russia has drafted a program of arms production until the year 2000. This was said by First Deputy Defense Minister Andrey Kokoshin at a news conference in Moscow.

The new program will give priority to high accuracy weapons and latest means of warfare.

At the same time the present assortment of arms will be reduced. For the land forces, for example, it will be reduced down to one third.

Andrey Kokoshin also called attention to the problems of financing defense industry plants.

Foreign Minister Meets With U.S. Ambassador

LD0907162093 Moscow ITAR-TASS in English
1558 GMT 9 Jul 93

[By ITAR-TASS correspondent Andrey Naryshkin]

[Text] Moscow July 9 TASS—Russia has taken over the control of the former Soviet nuclear strategic forces, but its concern over the nuclear weapons deployed in Ukraine and Kazakhstan becomes ever more grounded, according to Russian defence minister who met US Ambassador in Moscow Thomas Pickering on Friday.

Grachev said that the "nuclear button" is now in the hands of the Russian president and the leadership of the Defence Ministry, however the Ukrainian decision to own the nuclear weapons deployed on its territory doubts the possibility of implementing the START-1 and 2 treaties and endangers the Nuclear Non-Proliferation Treaty.

Ukraine lacks the necessary facilities to maintain the weapons in proper order which "greatly increases the risk of dangerous situations which can result in serious ecological consequences," according to Grachev.

Pickering said that his country is not interested in the proliferation of nuclear weapons and shares Russian concern over the safety of nuclear weapons in Ukraine. The United States will attentively follow all actions of Kiev in the sphere.

Grachev reiterated Russian desire to solve the issue of flank limitations in connection with the Treaty on Conventional Armed Forces in Europe. He said this is caused by changes in the geopolitical situation on the continent triggered by the collapse of the USSR.

Grachev also called on the United States to help make Latvia and Estonia ensure human rights of the Russian-speaking minority.

U.S. Third-Generation Nuclear Arms Programs Surveyed

93WC0087A Moscow SEGODNYA in Russian No 28,
25 Jun 93 [Signed to press 24 Jun 93] p 6

[Article by Vladimir Belous: "What Are Third-Generation Nuclear Weapons?: Specters Can Become Reality"]

[Text] On 1 July the nuclear testing moratorium expires. The Russian Supreme Soviet has appealed to legislators in the United States, Great Britain, France and China, proposing that a joint program of action be developed to prevent a new spiral in the arms race.

Wherein lies the danger from continued nuclear testing, and why is the reaction of world public opinion so sharp in response to every report of the latest nuclear detonation?

Without going into the political and economic aspects of this issue, let us merely examine those that are military and technical.

The military significance of nuclear testing is due primarily to the fact that the lion's share of explosions is conducted for the purpose of creating new and more perfect types of nuclear weapons, specifically third-generation nuclear weapons.

Third-generation nuclear weapons refer to special warheads that redistribute the energy of an explosion into a single destructive factor, at the same time ensuring that that factor is focused in the appropriate direction. The best-known example of third-generation nuclear weapons is the Americans' neutron bomb.

In the early 1980's U.S. nuclear experts began research efforts to create another type of third-generation nuclear weapon called the Super EMP, which releases intense electromagnetic radiation. They believe that with the Super EMP it would be possible to create field tension of hundreds and even thousands of kilovolts per meter on the Earth's surface within an enemy's territory. According to their calculations, if one such warhead with an explosive force of 10 megatons were detonated at an altitude of 300-400 kilometers above the geographic center of the United States (in Nebraska), it would shut down the operations of all radio and electric equipment throughout the entire country for a period of time sufficient to prevent retaliatory measures.

A few years before Ronald Reagan announced his "Strategic Defense Initiative" the Lawrence Livermore Laboratory had already begun working on development of a "21st-century anti-missile weapon"—a nuclear-pumped X-ray laser. It was envisioned that this weapon would be the primary means of destroying Soviet missiles in the interval between launch and warhead separation. Its capabilities were supposed to ensure interruption of a retaliatory attack by a probable opponent, and therefore it was given the high-flown designation of a "volley-fire weapon."

The simplest type of weapons of the future might take the form of a warhead with a surface studded with up to 50 laser tubes. These could be independently targeted at any point in space. Inside the warhead there would be a powerful nuclear charge that would serve as the energy source to power the lasers, as well as a targeting system controlled by a fast computer.

To counter Soviet missiles U.S. experts have also developed a special tactic for the military application of this weapon. Under this plan laser warheads would be deployed on board nuclear submarines. During a crisis situation or preparations for a first strike those submarines would go out on patrol and take up positions as close as possible to the areas where Soviet ICBMs are deployed, i.e. in the northern Indian Ocean and in the Arabian Sea, Norwegian Sea and Sea of Okhotsk.

Efforts to create so-called "nuclear shrapnel" are another innovation in the nuclear weapons field. This work was done by the United States as part of the Prometheus Program. This weapons development project is based on the use of the energy from a nuclear blast to scatter small solid particles at high velocities (tens of kilometers per second). At high velocities these small particles (weighing less than a gram apiece) would acquire a large amount of kinetic energy and consequently a great deal of penetrating force. This weapon would be used in space to counter warheads in flight or an enemy's decoy targets. If the particles struck a warhead they could damage or puncture the warhead housing. Even if the housing were only damaged, the warhead would be destroyed as it entered the denser layers of the atmosphere as a result of mechanical and thermal stresses.

According to a report from the U.S. Atomic Energy Commission, in the 1950's American experts began conducting experiments on ways to change the composition of nuclear fallout by making the housing surrounding the nuclear charge out of various materials. Those materials were selected with a view toward ensuring that a nuclear explosion would produce relatively short-lived isotopes with a high level of radioactivity. The main idea behind the use of such a weapon was that radioactive contamination of terrain, industrial enterprises and various types of military facilities could defeat the enemy's forces without destroying facilities or resources.

The most famous of these was the "cobalt bomb" project, the essence of which was that the nuclear weapon was surrounded by a housing made of natural cobalt. Neutron irradiation of this housing during the nuclear explosion would produce cobalt-60, a highly radioactive isotope with a half-life of 5.7 years. Falling out along with the other products of the blast, it would create intensive radioactive contamination of the local area, destroying all living things.

Of course the types of third-generation nuclear weapons mentioned here are not a complete list of possible modifications. Specifically, changes in nuclear weapon design could create a warhead in which most of the energy of the blast would go into creating a shock wave or gamma radiation. A special "penetrator" was designed for the Pershing II missile. This was a warhead that would penetrate deep into the ground, and was designed to destroy particularly reinforced structures. When this type of warhead exploded a substantial portion of its explosive energy would be converted into seismic shock waves, which would destroy the facilities. The United States has also developed similar warheads for strategic missiles. All this is evidence of the fact that there is no limit to nuclear weapons improvement and that the world community will again and again have to contend with the possibility of new modifications emerging.

The current international situation, the end of the cold war and radical cuts in nuclear arsenals are creating a

real opportunity to ban nuclear testing once and for all. It would be an unforgivable mistake not to take advantage of that opportunity.

Government Approves Draft Nuclear Treaties With Ukraine

LD1307101493 Moscow ITAR-TASS World Service in Russian 0906 GMT 13 Jul 93

[By ITAR-TASS correspondent Roman Zadunayskiy]

[Text] Moscow, 13 Jul—The Russian Government has approved the drafts of intergovernmental treaties with the Ukraine on utilization of nuclear warheads and the status of S-grade facilities on Ukrainian territory.

According to the draft treaties, Russia undertakes to ensure that nuclear warheads and the highly-enriched uranium they contain will be reprocessed into low-grade enriched uranium for use as fuel elements in Ukraine's nuclear power stations. Russia will also ensure long-term storage of nuclear components resulting from this treatment of the warheads.

S-grade facilities in Ukraine—military nuclear technician units that store nuclear munitions and work with them—will, under the drafts, be subordinated to the Russian Defense Ministry until the full destruction of nuclear munitions, and as long as such munitions are located in Ukraine, Russia will be committed to scientific and technological provisions for their use and to taking every measure to ensure their safety.

The treaties should be signed at the level of heads-of-state by the Russia and Ukraine.

STRATEGIC ARMS REDUCTIONS

Ukraine Sources on Nuclear Weapons

Kiev Claims Ownership

AU0207142093 Paris AFP in English 1414 GMT 2 Jul 93

[Text] Kiev, July 2 (AFP)—Ukraine on Friday announced it was claiming ownership of all former Soviet nuclear weapons on its territory in a vote that confirmed the country's status as the world's third nuclear power.

Lawmakers voted overwhelmingly to include in a bill on foreign policy objectives a provision stating that all nuclear arms on Ukrainian territory belonged to Ukraine.

Deputy Sergei Hovolaty, a legal expert, told AFP that it was the first time that any mention of Ukraine's sole ownership of the nuclear arms had been included in the country's legislation.

Nationalists' Congress Endorses Independent Policy

WS0507102893 Kiev UNIAR in Ukrainian 2200 GMT 4 Jul 93

[Text] Kiev, 4 July—The Grand Congress of the Congress of the Ukrainian Nationalists [KUN] adopted a range of resolutions which will be communicated on 5 July at the Writers' Union. One of them, "On the Ukrainian Nuclear Status," endorses the Republic's non-nuclear status in the context of the proportional disarmament of all nuclear powers of the world—those who did and did not sign the nuclear nonproliferation treaty. "Given the current international situation and the intention to preserve Ukraine as an independent state, we support the independent nuclear policies of Ukraine, which would consider its national interests on a priority basis. Also supported was an initiative to establish a collective security system in the Central-Eastern Europe, the Black Sea, and the Central-Southern Asia."

Given the fact that Ukraine is a successor to nuclear weapons of the former Soviet Union, the West should:

1. Recognize it as a nuclear state;
2. Support its combat readiness through promoting the professional Armed Forces.

Some sources say that the KUN paid \$150,000 to rent the "Ukraine" concert hall to hold its Grand Congress, instead of the officially reported 80,000 karbovanets.

Kravchuk Tours Missile Base

LD1007165593 Kiev UKRINFORM in Russian 1409 GMT 10 Jul 93

[“Leonid Kravchuk: Nuclear Weapons Issue Should Be Tackled Comprehensively”—UKRINFORM headline]

[Text] [No dateline as received]—"I hope we will have enough responsibility so as to make a reasonable decision: To ratify the START I Treaty and to join the Nuclear Weapons Nonproliferation Treaty," Ukraine's President Leonid Kravchuk stated after visiting a missile base during his stay in Vinnitsa oblast. At the same time, he continued, the issue of taking nuclear launchers out of combat duty should be tackled comprehensively.

Above all, it is necessary to conclude an agreement with the Russian Federation, according to which financial compensation will be made to Ukraine. We should also be certain that no one will ever use these lethal weapons. Ukraine has the right to have guarantees of its security. Besides, the decision should be such that as a result our relations with Russia do not deteriorate, but on the contrary, improve. The president of Ukraine inspected the missile base, a launching silo and a command post. He talked with the officers and soldiers on combat duty and with the command of the military unit.

Russian TV Report of Tour

LD1207214293 Moscow Ostankino Television First Channel Network in Russian 2000 GMT 12 Jul 93

[Video report from Ukraine by correspondent Petr Fil—from the "Novostii" newscast]

[Text] On Sunday Ukraine President Leonid Kravchuk visited the 43d Strategic Nuclear Missile Division, which is situated some 272 km from Kiev, near the town of Khmelnitskiy. This was Kravchuk's first visit to a real nuclear base. The president's curiosity was so strong that he decided to go down the silo of an intercontinental ballistic missile in person.

Impressed by what he saw, Kravchuk returned again to the topic of Russian-Ukrainian relations in the military sphere. He appealed to the parliament of his country not to respond to the Russian Supreme Soviet's decision on recognizing Sevastopol as a Russian town by deliberately prolonging the ratification of the START-I treaty on the non-proliferation of nuclear weapons. Kravchuk also stressed that both sides have already signed an agreement on joint use of strategic nuclear systems situated on Ukrainian territory and that Ukraine will receive compensation from Russia for the use of these systems. [video shows Kravchuk arriving by helicopter, being shown around installations, being helped to go down a silo, speaking to camera]

Supreme Soviet View on START I

PM0907135993 Moscow KRASNAYA ZVEZDA in Russian 9 Jul 93 p 3

[Grigoriy Nesmyanovich and Sergey Prokopenko report: "Money in the Morning, Disarmament in the Evening. Ukrainian Parliament Continues Insisting on Guarantees"]

[Text] You get the impression that ratification of the START I Treaty and joining the Nonproliferation Treaty have become for Ukrainian parliamentarians a kind of Rubicon which they will in no way be able to cross. The ratification question was raised in June for the umpteenth time. But it "did not pass." The situation now is similar.

The fact is that on 2 July deputies ratified the "Main Avenues of Ukrainian Foreign Policy," but during the vote a question arose about a point concerning Ukraine's nuclear status. The version proposed by the Foreign ministry states: "Ukraine will never sanction [nikogda ne sanktsioniruyet] the use of the nuclear weapons it has inherited from the former USSR." But the parliamentary Commission for International Affairs proposed the following version of this paragraph: "Ukraine, having acquired its own nuclear weapons for historical reasons, will never sanction their use."

Incidentally, Dmytro Pavlychko, the commission chairman, believes that, in voting for the new version, the deputies have fundamentally changed Ukraine's

status. In Pavlychko's opinion this means that Ukraine is the owner of nuclear weapons. The Supreme Soviet's Commission for International Affairs considers it inexpedient to ratify the Lisbon Protocol, under which Ukraine joins the Nonproliferation Treaty as a nonnuclear state.

It is thought that the reason for this was once again "Ukraine's dissatisfaction" with the position of Russia, the United States, and the other three permanent UN Security Council members on the question of providing it with security guarantees. Security guarantees mean a legal document which would rule out the possibility of military aggression by the signatory countries, territorial claims against Ukraine, or any attempt to exert economic pressure on it. That last point is unambiguously aimed at Russia. Ukraine's demand to obtain corresponding compensation for the nuclear and fuel components of the 176 missiles on its territory which are theoretically to be recycled [utilizirovany] at the manufacturers' plants—that is, on Russian soil—is also made once again.

Amazingly, not a single Ukrainian politician or republic newspaper are even attempting to couch the question in terms of what compensation Russia would demand for dismantling Ukrainian nuclear missiles that are in a critical condition from a technological standpoint (this particularly applies to the 130 RS-18's). It should not be forgotten that the time may come when neither country will any longer tackle the dismantling of dangerously unreliable [avariniy] missiles.

It is typical that, following the parliamentary debate, the republic's Foreign Ministry immediately attempted to reassure its international partners. "Ukraine has a unique status: The republic is not a nuclear state, but it has nuclear weapons," Yuriy Serheyev, leader of the Foreign Ministry Press Service, stated during a Tuesday briefing in Kiev. According to him, the position of the republic's Foreign Ministry is that parliament should ratify the START I Treaty along with the Lisbon Protocol to the Nonproliferation Treaty in a single package. Serheyev believes that "we should not make the excuse that Ukraine is a nuclear state." But the Supreme Soviet takes a different view. And that view currently prevails.

Democratic Party Calls for National Control

PM0707124993 Moscow PRAVDA in Russian 7 Jul 93 p 1

[Aleksandr Golub report: "Missiles for Democratic Dictatorship"]

[Text] The Democratic Party of Ukraine has issued a statement on the nuclear weapons deployed on the state's territory. In the Democrats' opinion, Ukraine should postpone joining the Nonproliferation Treaty at least until 1995. The 46 Ukrainian-produced SS-24's and their warheads should be placed under national operational command and control. The statement also expresses a desire to obtain financial backing from the

world community for the implementation of the START I Treaty and the guarantees of Ukraine's territorial integrity and security.

Commentary Supports Nuclear Deterrence

934K1678A Kiev PRAVDA UKRAINY in Russian
29 Jun 93 p 2

[Article by Yuriy Smetanin, first deputy general designer for research of the Yuzhnoye Design Office and corresponding member of the Ukrainian Academy of Sciences, and Anatoliy Shevtsov, executive director and leader of the Dnepropetrovsk subsidiary of Ukraine's National Strategic Studies Institute and doctor of technical sciences: "Nuclear Deterrence: For and Against"]

[Text] Articles which discuss the question of Ukraine's nuclear status both from the standpoint of the supporters of the preservation of this status and from the standpoint of opponents of the concept of nuclear deterrence have increased in frequency in the Ukrainian press as of late.

We do not share the viewpoint of either and consider the sole correct position the official position of the leadership of Ukraine, the basis of which is the realization of nuclear-free status in the future with the temporary deployment on its territory of strategic nuclear forces strictly in accordance with the Lisbon Protocol and the START I Treaty (SOA I).

The opponents of nuclear deterrence disregard the historical fact that for almost half a century mankind has succeeded in living without a world war, which is in itself unprecedented in its history. And this under the conditions of the ideological confrontation of two groupings in the cold war period! Only people "blinded" by the idea of discrediting all that has been achieved in the past can fail to see here the deterrent role of nuclear weapons, which sobered the most irrational and reckless politicians all these years.

An argument against the presence of nuclear weapons is the proposition concerning their suicidal nature, and it is maintained here that their presence creates a threat more catastrophic than the accident at the Chernobyl Nuclear Electric Power Station.

If we take as the basis an unfailing desire to use nuclear weapons, this is undoubtedly a shortcoming, but if we are speaking of their deterrent role, it is their suicidal nature which is their deterrent strength.

As far as comparisons with the accident at Chernobyl are concerned, they are improper, as a rule. In terms of long-term repercussions the accident at Chernobyl was the equivalent of 100 1-megaton nuclear explosions. The possible consequences in the event of a mishap with nuclear weapons in the process of their maintenance are simply not comparable to this catastrophe since the quantity of active material in the nuclear weapons is measured in tens of kilograms, whereas the charge of the Chernobyl reactor constitutes approximately 200 metric

tons, and the possibility of an active explosion of a nuclear weapon in an emergency situation is completely ruled out thanks to design solutions contained in its base.

Available experience is confirmation of this: In more than 45 years of maintenance in the armies of the United States, the USSR, Britain, France, and China there has not been a single incident with any in any way serious consequences.

It is also being written that nuclear weapons are today obsolete and that this is a stage which is past, and hypotheses concerning the availability of more efficient means of deterrence (of the "geophysical," "psychological" type, weapons for "surgical" strikes, and other no less exotic weapons) are being advanced.

From these standpoints it is entirely incomprehensible why no single nuclear power, primarily the United States, which possesses, in the authors' opinion, all these "novelties" is abandoning nuclear weapons and why such countries as France, Britain, and China are not as yet admitting of the formulation even of the question of a reduction in national nuclear forces.

Ukraine is the first state to have proclaimed the renunciation of nuclear weapons in the future as its ultimate goal. And its demand for guarantees of its own security from the nuclear states is perfectly justified here.

But this fact is frequently being presented as though Ukraine were not the first but the last on this path and that it is lagging behind the world community virtually and that immediate steps for its transition to nuclear-free status are needed. Ukraine's caution on this matter is portrayed as being an impediment, virtually, on the path of the process of a reduction in strategic nuclear arms, which has in practice not yet begun. After all, the signing of the new START II Treaty does not in itself mean the entry into force of the START I Treaty.

Many authors are writing about the exceptional costliness of nuclear weapons. This assertion is a "falsification." It is sufficient to observe that even under the conditions of the Russian Federation it is deemed sufficient to spend on strategic nuclear deterrent forces 15 percent of the resources allocated for defense, and this with regard for the presence of the costliest component—the nuclear missile-firing submarine fleet. For Ukraine's conditions, on the other hand, elimination of the strategic nuclear weapons would hardly provide a budget savings of more than 5 percent, and a halving of the effective strength of the armed forces (to the norm commonly accepted in democratic states) would produce a far more tangible savings.

It is another matter when the question of Ukraine's preservation of its nuclear status sine die is raised—such a decision would require the creation of our own industry for manufacturing nuclear munitions, which would entail unacceptable economic outlays, not to mention the political costs on account of inconsistency of behavior.

That is, it is a question not of the creation in Ukraine of a nuclear industry capable of manufacturing nuclear weapons and not of immediately destroying the battle reserve of nuclear missiles which we inherited from the USSR. It is a question of wisely disposing of the legacy in these troubled times and switching to the status of nuclear-free state after having obtained guarantees of national security and having preserved a capacity for deterring any reckless types from aggressive actions in respect to Ukraine.

Russian Commentaries on Ukrainian Nuclear Issue

'A New Arms Race'

*PM0707133193 Moscow IZVESTIYA in Russian
7 Jul 93 First Edition p 3*

[Aleksandr Sychev report: "Ukrainian Parliament Upholds Right To Own Nuclear Weapons"]

[Text] The events which occurred in the Ukrainian parliament last Friday [2 July], when there was a vote on the draft "Basic Dimensions [napravleniya] of Ukrainian Foreign Policy" submitted by Foreign Minister Anatoliy Zlenko, took an unexpected turn a few days later.

It is known that 226 legislators voted for the draft, and 15 against it. One of the document's provisions was a confirmation of Ukraine's pledge to become a nuclear-free state. At the very last moment Dmitriy Pavlychko, chairman of the Foreign Policy Commission, submitted an amendment stating that Ukraine in its foreign policy supports the idea of full nuclear disarmament. The text goes on to state that, for historical reasons, the republic became "the possessor of the nuclear weapons which it inherited from the former Soviet Union." Ukraine does not approve of their use and excludes the nuclear weapons factor from its foreign policy.

A conflict situation arose in connection with a variant interpretation of the voting results. According to the procedure adopted in the Ukrainian parliament, each amendment must be examined by deputies separately from the draft of the proposed document. Pavlychko's addition was not subjected to this procedure. This gave the Ministry of Foreign Affairs the right to consider that it had not been adopted and that Ukraine had announced that its official policy was to implement the protocols to the Treaty on the Reduction of Strategic Offensive Arms (START I) and to the Treaty on the Nonproliferation of Nuclear Weapons signed by President L. Kravchuk in Portugal.

The members of parliament, however, did not agree with the Foreign Ministry's viewpoint, declaring that the proposed amendment had become law. Speaking in strict juridical language, the "Basic Provisions [polozheniya]" are not considered a legislative act and in no way belittle the significance of Kiev's adopted pledges to rid Ukraine of the nuclear arsenal left on its territory "for historical reasons." Although this document defines the main

foreign policy aims, which the government is recommended to try to achieve, so as not to have complications with the legislators.

"We no longer do as we are told by the Foreign Ministry," Bogdan Gorin, deputy chairman of the Foreign Policy Commission, explained parliament's position. It is thought, however, that the deputies' actions are dictated not by a sense of contradiction and a desire to confirm their lawmaking right by any means, even the most thoughtless means.

This is not the first attempt by a group of Ukrainian parliamentarians to secure nuclear status, which, in their opinion, will at once place the republic among the top-ranking world powers and give it a strong trump card in international affairs. A number of observers in Moscow also point out that the recent bombing of Baghdad by U.S. aviation [as published] played a definite role in galvanizing supporters of the nuclear right. At the time Kiev voiced its disagreement with that operation in a reasoned manner, while the nationalistically-minded parliament drew its own conclusions—nuclear weapons should be preserved as a guarantor of security.

One more serious bid has thereby been made for the right of ownership and, thus, for nuclear status. We know even now what this could lead to. If the Ukrainian parliament achieves its set aim, the nuclear nonproliferation regime will be undermined in the near future, and mankind risks being drawn into a new arms race, whose participants will be not only the five recognized nuclear powers plus Ukraine but also many other "near-nuclear states." Under these conditions it will be absurd to speak of security. In the shorter term we should obviously expect a further complication of Kiev's relations with its neighbors and partners in the West.

IZVESTIYA 9 July Commentary

*PM0907134793 Moscow IZVESTIYA in Russian
9 Jul 93 First Edition p 3*

[Aleksandr Sychev article: "Ukraine Reconsiders Its Promise.... The West's Viewpoint"]

[Text] Kiev presents its decision as a simple juridical legalization of ownership, comparable in significance with a notarial legalization of the purchase of a house or a private car. Particularly as, according to Kravchuk, it is not a question of Ukraine's abandoning its pledge to rid itself of nuclear weapons in the long term and to become a nonnuclear state.

In the opinion of Ukrainian politicians, this way of formulating the question makes it possible to resolve several problems: to keep nuclear weapons for quite a long time and to use them as a guarantor of security, to remain the center of constant attention from the world community, and to use the deadly property as small change for Western aid.

Incidentally, the latter assumption is certainly not without foundation. President Kravchuk has sent to the Tokyo meeting of the leaders of seven leading Western countries a letter stating that ratification of the START I Treaty and the Nuclear Nonproliferation Treaty will be accelerated if the developed countries help Ukraine on a more substantial scale in its expenditure connected with nuclear weapons. Ownership enables it to count on this.

These calculations would be perfectly understandable and explicable if everything were confined to them alone. Unfortunately, the line between the juridical and the political aspects of this issue is so fine that it is easy to cross it—which is undoubtedly what has happened with Kiev. By postponing ratification of the Lisbon protocols and insisting on the right of ownership, Ukraine is undermining international law, whose effectiveness is based on each participant's strict fulfillment of its adopted pledges. By violating this principle, the leaders of Ukraine have no right to count on the world community's confidence in their assurances of loyalty to the aim of becoming a nonnuclear state.

On the other hand, the nuclear powers cannot agree with Ukraine's "juridical" claims, because otherwise they will lose the moral right to insist on the "near-nuclear states'" consent to extending the Nuclear Nonproliferation Treaty, whose fate will be decided at a conference in 1995.

In addition, the Russian-U.S. START II Treaty is ending up on the brink of being wrecked. It defines the specific levels of reductions, which include for Russia the nuclear components held by Ukraine. In order to fulfill its pledges, Moscow will have to destroy a larger quantity of weapons sited on its own territory—more modern weapons, moreover—than the arsenal over which litigation has arisen.

'Danger Point'

PM1407100393 Moscow KRASNAYA ZVEZDA
in Russian 13 Jul 93 p 3

[Article by Aleksandr Golts: "Is Nuclear Status To Ukraine's Benefit?"]

[Text] Kiev has staked its most serious claim to nuclear weapons since the state's formation. When approving the basic principles of foreign policy, the parliamentarians enshrined in legislation a provision to the effect that the country "is for historical reasons a possessor of nuclear weapons." The president and government not only failed to dissociate themselves from this approach, but indirectly confirmed it in a series of statements.

I can sympathize with Ukrainian diplomats who are now making a belated attempt to demonstrate the "legitimacy" of this decision. They "forget" that there have been several special international agreements on the former USSR's nuclear weapons. Including the Lisbon Protocol, signed by Ukraine, which demands

that it immediately join the Nuclear Nonproliferation Treaty as a nonnuclear state. So Ukraine, no matter what casuistry it resorts to, is clearly violating its own commitments.

Kiev tries to explain its position by citing the inadequate security guarantees offered to Ukraine by the nuclear states, including Russia. I regret to say that the Russian parliament's latest decision on the status of Sevastopol essentially adds grist to the Kiev extremists' mill. But one cannot help noticing that Moscow and Washington, which have a direct interest in the speediest implementation of Ukraine's commitments under the START I Treaty and Lisbon Protocol, have already done a great deal to satisfy Kiev's demands—by no means always warranted, in my view—concerning special security.

Kiev's response is merely to strengthen its claims. So it is not a security matter. Ukraine has not yet rid itself of the feeling, which has long since ceased to correspond to the real state of affairs, that the possession of nuclear weapons could boost the country's status and enable it to be at the center of world politics. But that is no more than a dangerous delusion.

And it appears that Ukraine has now actually reached the danger point where the West and Moscow stop using persuasion. I think the appeal to Ukraine, contained in the "big seven's" political declaration, and the U.S.-Russian initiative on a tripartite agreement on nuclear problems are final attempts to reach an amicable understanding. As soon as everyone sees that Ukraine is seriously intent on becoming the world's third-most-powerful nuclear state, political and economic sanctions will not be far behind. In this connection it is pertinent to recall that the United States has not been slow to bring very tough pressure to bear even on "strategic allies" whenever they have shown indications of wanting to possess nuclear weapons. And the very fact that it has reneged on earlier pledges, albeit not on nuclear weapons, does nothing to enhance Ukraine's authority as it makes its first faltering steps toward establishing itself in the international arena.

But that is a minor problem. The trouble is that the Ukrainian parliament's decision seriously threatens the security of Ukraine itself. Because it lacks the proper infrastructure, Kiev cannot independently maintain the nuclear weapons that are on its territory. It is no secret that a significant proportion of the nuclear munitions have exceeded their guaranteed operating periods and are in a critical state from the safety viewpoint.

So the desire to acquire nuclear status without prior arrangement is no more than a political concession by the Ukrainian leadership to nationalist forces. It will bring nothing but new, very serious problems for Ukraine itself and for the rest of the world.

Ukraine's START Working Group Holds Discussions

*LD2906140293 Kiev UKRINFORM in Ukrainian
1656 GMT 26 Jun 93*

[Text] The deputies' working group for the study of issues regarding the ratification of the START Treaty by the Supreme Council of Ukraine and Ukraine's adoption of a non-nuclear status held a routine session on 28 June chaired by V. V. Durdinets Durdynets, first deputy chairman of Ukraine's Supreme Council, with the participation of a number of ministry and department heads.

People's deputies heard reports and had a thorough discussion of the issues concerning the definition of limits and restrictions on strategic offensive arms in connection with the preparation for the ratification of the START-1 treaty, and a comprehensive program of measures for the elimination of strategic offensive arms in Ukraine; also at issue were possible methods of economic and financial provision for the treaty and the environmental safety of operations on nuclear arms elimination.

Official Analyses of START II Criticized

*93WC0086A Moscow VEK in Russian No 21,
4-10 Jun 93 p 10*

[Article by independent expert Petr Belov: "START II: Time Is Working Against Us. Information on Missile Testing Is No Longer Being Encoded—Why?"]

[Text] Against the background of the noisy events of recent months, everyone has forgotten about the fate of the treaties on reduction and limitation of strategic offensive arms—START I and START II. It should be remembered, however, that neither of these treaties has to date entered into force. But the main thing is—that is unlikely to take place, at least in the near future.

Yet the most astonishing aspect lies in the fact that the current situation concerning the treaties in question seems to suit everyone just fine.

We can attempt to understand the Russian parliamentarians: Hearings are not on their mind when they are forced—deliberately, in my view—to fight for self-preservation. But it would be extremely rash of us, the voters and taxpayers, to concur with such a position. I personally am greatly alarmed at one fact unknown to the public in general: To date the Supreme Soviet has not received from the government either the START I or START II implementation programs, or the concept of our military-technical policy. But indeed, in the absence of these documents and specific rearmament plans, we will soon become truly defenseless. I am entirely justified in speaking this way, insofar as it is not through hearsay that I know of the consequences of the continuing landslide of "conversion," and of the fact that our weapons are aging physically at an accelerated rate. It is precisely for this reason that the time has come to sound

all the alarms and demand that we speed up resolution of the fate of START II. Unlike the United States, time is working against us in Russia.

Analysis of published materials and open hearings on START II confirms that the "numbers content" of the treaty is the result of joint efforts on the part of the American Center for Computer Modeling and SDI Simulation Programs and of a number of specialists from the United States and Canada Institute of the Russian Academy of Sciences and the Foreign Policy Association (primarily scientist-historians). Russia's Ministry of Foreign Affairs has assumed responsibility for preparing the international law aspects of the treaty. Most active in championing the advantages of START II to date have been the treaty's authors and adherents from the institutions just mentioned and other organizations which serve the Ministry of Defense and Ministry of Foreign Affairs of Russia. While the only people criticizing the treaty have been independent experts and a few people's deputies.

A whole number of prominent scientists can be added as well to the list of opponents to START II. Being only partially independent, however, they are expressing their views just on the substance of certain of its provisions. One of the most prominent specialists on nuclear weapons, Academician Ye. Avrorin (director of the All-Russian Scientific Research Institute TF [expansion unknown], Chelyabinsk-65), for example, expresses the following consideration: "An orientation on the Navy, on submarine-based missiles, as the Americans have and which follows from START II, is a decision which is perhaps correct, but obviously—it is more expensive." Academician V. Utkin, who replaced M. Yangel, founder of our military missile production (and who is presently director of the Central Scientific Research Institute for Machine Building, formerly headed the Yuzhnoye Design Bureau, and has no equal in the world in matters of missile production), believes that "mobile missile systems are potentially more dangerous, and it is necessary to guarantee attainment of the required security level of these systems to a greater extent through technical means." I would note that security is currently ensured using organizational measures, which are fundamentally unreliable.

As we can see, the treaty being proposed to us is both expensive and not void of danger: We will ruin ourselves both in rearming and in providing restitution for damage from possible catastrophes, the consequences of which are commensurate with the Chernobyl disaster. But even this is not the most frightening aspect. "The elimination of intercontinental ballistic missiles with multiple warheads (more than 95 percent of which are silo-based—P.B.) is tantamount to scrapping the structure of strategic nuclear forces and confirming the undivided monopoly of the United States in the sphere of strategic offensive arms." These are the words of L. Volkov—corresponding member of the Russian Academy of Sciences and academician of the Engineer Academy, former director of the Central Scientific Research Institute of

the Russian Federation Ministry of Defense. Incidentally, corresponding member V. Dvorkin—the new director of the institute—went to the United States five months after publication of this assessment as a member of the above-mentioned delegation for “theoretical justification” of exactly the opposite conclusion: the need to scrap the structure of strategic forces using START II.

We should add to the above the senselessness—obvious to specialists—of assigning missions of strategic deterrence to the ballistic missiles on our submarines. I am revealing no military secret when I state that our submarines are defenseless, insofar as they are always under aim. Their position is known to an enemy—at any moment in time. And right now we are not about to build new sea- and air-based nuclear warhead launch vehicles.

There is a great deal in the position of the Security Council with respect to START II which is incomprehensible and even puzzling to me. It is hard to believe that the so well-informed apparatus of the Russian president has to this day not ascertained its position regarding assessment of the treaty and the consequences of its ratification. True, references to a positive assessment of the treaty by high-ranking officials of the Security Council have crept into the press. However, the absence of official conclusions and statements from Yu. Skokov, like the recent decision to dismiss him from the post of secretary of the Security Council, force us to presume that there exist divergences of opinion from that of B. Yeltsin, who signed START II.

Any precise, “unembellished” assessment of START II by the leaders of the Supreme Soviet and its Committee on Defense and Security Matters is also lacking. If R. Khasbulatov has already conceded the possibility of its ratification, albeit in exchange for the resignation of A. Kozyrev, it is difficult to say anything at all about the position of S. Stepashin and A. Piskunov. From all appearances, the above-mentioned committee assumed for itself not the role of skilled arbiter but of START II commentator, without even ensuring accomplishment of the program of parliamentary hearings which was approved by the Presidium of the Russian Federation Supreme Soviet.

In my view, the intention of certain open and veiled opponents of START II—members of the Russian Federation Supreme Soviet, to drag out ad infinitum the process of scrutiny and thereby “wear the treaty down,” is naive in this situation. The fact is—this scenario is quite suitable for our partner across the ocean. After all, START II, although ratified by no one, has already been functioning against Russia from the moment of its unusually hasty conclusion. Functioning like a time bomb.

Let me explain why. First of all, START II placed our arms development strategy at an impasse. Whereas before we focused on multiple warhead silo-based missiles, today we are being pushed in an entirely different direction—towards mobile sea, air, and ground-based

single-warhead launch vehicles. As a result, we are denied the right to carry out both our previous military-technical policy and any new one. For a new one, we lack both the physical capabilities and an appropriate strategy of development of the military-industrial complex. Only immediate resolution of the fate of START II (probably through its repudiation) will remove the ambiguity and ensure the required concentration of effort to fulfill the quantitative demands on numbers of warheads it prescribes. But here we must retain launch vehicles which are advantageous to us, and not to the United States—multiple-warhead silo-based missiles.

Secondly, we have in fact been forced to resort to the sale of weapons-grade uranium which will be obtained from warheads being dismantled, including with START II ratification being taken into account. In this regard, the uranium is being sold hastily and at cheap prices. Meanwhile, in the opinion of B. Zamyslyayev, corresponding member of the Russian Academy of Sciences and nuclear scientist well-known in military circles, “the uranium and plutonium freed up, if utilized sensibly, could double Russia’s energy-generating capacities for a practically unlimited period of time.” And this under circumstances when two-thirds of natural uranium reserves are found in our neighboring foreign countries.

Thirdly, the “requiem” just declared for “Star Wars” (removal of the first two SDI echelons—means of destroying our missiles during the initial and mid-portions of their trajectory) would not have taken place without START II. Here is the statement—rare in its incontrovertibility, in my view—of Deputy Minister of Foreign Affairs G. Berdennikov, the head of our delegation at the START II negotiations: “...The deciding role in abandoning SDI was played by the START II Treaty, even though unratified.”

One must understand the recently published decision of the United States as the implementation of their scientifically justified conclusion: given the composition of our mobile nuclear warhead launch vehicles “imposed” by START II (submarines, heavy bombers, and SS-25 missiles), the overwhelming majority of these will be destroyed at the necessary moment while still in their base mode or while on patrol, and the remaining dozen or two nuclear warheads are even within the capability of the third (ground-based) echelon of ABM missiles stationed throughout U.S. territory, except for the Hawaiian Islands and Alaska. The fact that such implementation will take place contrary to the 1972 ABM Treaty is beyond any doubt. As is the fact that this decision will save them additional tens of billions thanks to START II.

We await, however, an official statement from our Ministry of Foreign Affairs on the subject of the intention of the United States to introduce “certain changes” into the ABM Treaty, which Defense Secretary L. Aspin announced so unceremoniously. After all, there is an appropriate provision in the START II preamble concerning the ABM Treaty, in which the contracting parties

"take into account their obligations" on the need to observe it. Or did the authors of START II imply just such an interpretation of these words?

Finally, there is one more weighty argument in confirmation of the fact that even an unratified START I and START II are already functioning successfully against Russia's defensive capabilities. Demonstrating a readiness for partner-oriented relations with the United States in the implementation of START I, our politicians unilaterally agreed to assume the obligation to afford access to practically all information on the results of flight tests of intercontinental and submarine-launched ballistic missiles. The taxpayers can hardly be expected to know about this. But there are documents available—Russian Federation Governmental Order No. 2386-r of 16 December 1992 and Directive No. D-11 of the Russian First Deputy Minister of Defense dated 4 February 1993. These show that we will refrain from encoding or jamming all telemetry information during the course of testing prior to 28 November of this year or until the START I Treaty enters into force, i.e., until its ratification by Ukraine and the United States.

Wherein lies the destructive nature of our latest "initiative?" We are forced either to refrain for a year from any flight testing aimed at maintaining and improving our main nuclear warhead delivery systems, or to conduct such testing while "supplying" the United States with the most detailed and trustworthy information. This is extremely valuable, insofar as it enables versatile corrections to be made to ABM systems within the framework of a limited SDI. I am unable to find any reasonable explanation not only as to why we are putting the cart before the horse, but also are unilaterally tightening up START I requirements—for according to it, each side retains the right to encode and jam 11 flight tests per year, of which four could pertain to one type of missile. I do not believe this was done with the aim of economizing funds for scientific research and experimental design work and for production of these nuclear warhead carriers. Is it possible G. Khizha and A. Kokoshin, who signed these documents, failed to understand what this would lead to? More than likely this is an example of practical implementation of the idea of the so-called transparency and openness of our "new defense policy."

And now, following the signing of these documents, General V. Dementyev, Engineer Academy academician and deputy director of armaments of the Russian Federation Ministry of Defense, announces the decision "to fully restore production of strategic arms." Moreover, A. Kokoshin, responsible for military-technical policy of the Russian Federation Ministry of Defense, emphasizes that the main delivery vehicles for our nuclear weapons in future will be the ground-based SS-25 missile and sea-based SS-N-20. The absurdity of the situation is understandable even to the layman: Without several dozen flight tests per year, these decisions turn into empty words. Can anybody believe that our launch vehicles represent the peak of sophistication and require

no modernization? After all, the SS-25 is in fact defenseless because of its colossal size and weight, and the SS-N-20 has one-fifth the warhead delivery accuracy of its analog—the American Trident-2.

So many of these "discrepancies" and "contradictions" have accumulated that it is in our security interests to resolve all questions related to START I and START II as quickly as possible and provide the relevant information to people's deputies and to the public. Insofar as this is a matter which concerns all of us and the well-being of Russia, it is for us—and not a narrow circle of politicians—to decide our own fate and self-preservation. The Supreme Soviet must demand—and the Government of Russia present without delay—guarantees on preserving the spirit and letter of the 1972 ABM Treaty and on introducing similar limitations on U.S. antisubmarine warfare systems. The Supreme Soviet must also finally obtain the program for construction of the Armed Forces, modernization of strategic arms, elimination of surplus weapons of mass destruction, and ensuring strategic stability on this basis. The danger that has now arisen that this stability will be undermined is entirely evident to me.

Ukraine's Tarasyuk Sees 'Hope' That 'Nuclear-Free Idea' Will Prevail

*PM0807160693 Moscow IZVESTIYA in Russian
9 Jul 93 First Edition p 1*

[Report on interview with Ukrainian Deputy Foreign Minister Boris Tarasyuk by Irina Pogodina in Kiev; date not given: "Ukraine Is Reconsidering Its Promise To Become a Nuclear-Free State. The World Is Worried"]

[Text] The emergence of the state of Ukraine in central Europe has become a kind of test of the legal and political principles declared and implemented by the world community. Ukrainian Deputy Foreign Minister Boris Tarasyuk comments from this point of view on the present and future international situation of Ukraine, its foreign policy, and in particular its bilateral relations with Russia.

The sensational tone in which certain observers depict the simple fact that the Ukrainian Supreme Soviet, in its recently adopted basic foreign policy guidelines, reaffirmed Ukraine's right of ownership of the nuclear weapons it inherited from the USSR is, in Boris Tarasyuk's opinion, an expression of the aforementioned Western legal nihilism. Being reluctant to apply to the division of the USSR's property the principles enshrined in the 1978 and 1983 Vienna conventions relating to the division of the property of states that break up, and recognizing for Russia alone the right of succession and even the role of "continuer" of the USSR, the West not only shrugged aside Ukraine's rights, but continued the chain of mistakes made previously with regard to Yugoslavia. As a result a number of Western states are left with no alternative but to frighten themselves and their partners with the threat of nuclear weapons proliferation

emanating from Ukraine. Although the right of ownership of the "inherited" nuclear weapons has nothing to do with the provisions of the Nonproliferation Treaty, which deals with importation, manufacture, purchase of components, and so forth.

On the contrary, by removing all ambiguity over the fact of ownership of nuclear weapons, Ukraine is demonstrating consistency in maintaining these weapons under the operational control of the CIS joint strategic command, while also having the potential only to block the launch of these missiles, but not having the potential to launch them or proclaiming any intention of acquiring that potential.

At the same time people in Ukraine itself are increasingly clearly recognizing, B. Tarasyuk believes, that the nuclear heritage means, first and foremost, enormous additional problems. Ukraine is the first to be obliged to pay for world nuclear policy, for the arms race between the West and the USSR. The worst thing is that today the prospect is emerging of a sharp polarization of domestic political forces over the economic factor in the country's nuclear or nuclear-free status. This will unfortunately exacerbate the already critical situation in Ukraine, which is again subject to the threat of the loss of statehood. All the same, Boris Tarasyuk thinks, there is hope that the "nuclear-free" idea will prevail, if not as the most advantageous idea today, then at least as the most truly promising for Ukraine and the world.

9 July Russian Foreign Ministry Statement on Ukrainian Policy

*LD0907153893 Moscow ITAR-TASS in English
1409 GMT 9 Jul 93*

[By ITAR-TASS correspondent Sergey Staroselsky and Leonid Timofeyev]

[Text] Moscow July 9 TASS—"Ukraine, in fact, is declaring itself the owner of nuclear weapons which exist on its territory," Sergey Yastrzhembsky, head of the Russian Foreign Ministry press and information department, said at a briefing here today in connection with a document "on main directions of the Ukrainian foreign policy," adopted by the Ukrainian parliament a few days ago.

"A question arises how does the move comply with Ukraine's international commitments as regards its nuclear-free status. Russia, as the only legal successor to the former Soviet Union in matters concerning the possession of nuclear weapons and as a depositary of the Nuclear Non-Proliferation Treaty, will continue to strictly adhere to provisions of this treaty and the Lisbon Protocol. Russia cannot recognize legitimate any claims or actions which run contrary to international commitments on the preservation and strengthening of the regime of the non-proliferation of nuclear weapons," Yastrzhembsky said.

Defense Ministry Official Defends START II

*PM1307111193 Moscow KRASNAYA ZVEZDA
in Russian 1 Jul 93 p 3*

[Article by Lieutenant General Dmitriy Kharchenko, chief of the Russian Federation Ministry of Defense International Treaty Directorate, under the "Viewpoint" rubric: "START II Treaty: What Its Critics Do Not Want To Take Into Consideration"; first paragraph is unattributed introduction]

[Excerpt] The range of opinions on the Russian-American Treaty on the Further Reduction and Limitation of Strategic Offensive Weapons (START II), which was signed in January of this year and whose ratification process has now begun in the Russian Federation Supreme Soviet, is very broad: from unreserved approval to complete rejection. But criticism of this document is not always sufficiently well argued or convincing. This is the subject of the following article by Lieutenant General Dmitriy Kharchenko, chief of the Russian Federation Ministry of Defense International Treaty Directorate.

It is clear to everyone that the START II Treaty affects Russia's vital interests, its security problems. The most objective and balanced approach is therefore needed to its appraisal. But the treaty's opponents are unwilling to take account of this. At times they are not above resorting to blatant dirty tricks with the aim of discrediting the document, its contents, and its significance. I propose to dwell on just of few questions which the treaty's critics raise most often.

They assert, for example, that the document which the Russian and American presidents signed in Moscow not only failed to correct but actually exacerbated the shortcomings of START I. It would be idealistic to claim that documents on the scale of START I and START II had no shortcomings whatsoever. After all, in preparing them each side strove to protect its interests to the maximum degree, and these by no means always coincide. In such circumstances, an agreement could only be reached with mutual concessions and compromises being made. And the agreement should be assessed by comparing the degree to which it realized its aim with the level of concessions made.

All this is very basic. Unfortunately, many of those who write about the START I and START II Treaties forget about this, and they ignore the actual political, economic, and military conditions under which they were concluded and which they must satisfy. This, for example, is how Russian Federation Supreme Soviet member B. Tarasov behaves. In the first two paragraphs of his recent ROSSIYSKAYA GAZETA article he refers five times to serious shortcomings in START I (without ever naming them) but says not a word about the fact that the treaty provides for not just the limitation but also the genuine reduction of strategic offensive weapons. Yet the most important thing about the treaty is surely that it is in the interests of the whole world

community, first and foremost those of the former Soviet Union (now Russia). In the race for quantitative and qualitative parity with the United States we were forced to invest enormous sums in the creation of strategic weapons, to the detriment of our own economy and our people's prosperity. Signing this treaty allowed us to stop this completely senseless, debilitating, and increasingly dangerous nuclear arms race. Let us note that START II has the same purpose—though here it is even more marked.

Now let us consider the basic circumstances directly affecting the treaty's substance, which its critics do not wish to recognize. Let us just take the following fact. When the Soviet Union broke up, the ties between armaments enterprises which now found themselves on the territory of different states were severed at the same time. For example, of the four MIRV'd missile systems in service with our Strategic Nuclear Forces land-based grouping three were produced in Ukraine, including the RS-20 heavy ICBM's and the more modern RS-22's. I would remind you that the guaranteed service life of all these missile systems runs out over the next 6-10 years.

What decision should have been made in the prevailing circumstances? There were three possible courses of action: to develop the production of MIRV'd ICBM's on Russian territory—which would have required enormous expenditure and time; to unilaterally eliminate land-based missile systems through "natural attrition"—which in the final analysis would have led to a significant asymmetry between the Russian and U.S. nuclear arsenals and to the breakdown of strategic stability; or to conclude a treaty with the United States on the mutual reduction of nuclear weapons to levels more or less corresponding to the actual requirements which will confront us in the near future. As we know, preference was given to the third option, and this was reflected in START II.

What has actually been sacrificed to the new agreement? As regards major issues, there is our (and the Americans') commitment to destroy all MIRV'd ICBM's not when it would be most convenient for us to do so, but before the year 2003.

Of course, the actual elimination of the MIRV'd ICBM's is bound to affect the structure of our strategic nuclear forces, which are at present founded on a land-based missile grouping. But the reasons for the structural changes lie, as we can see, not so much in the treaty as in the conditions which have resulted from the USSR's collapse.

It is possible that the elimination of MIRV'd ICBM's will make it necessary to reassign combat tasks between the land-based and sea-based groupings of the Strategic Nuclear Forces. True, the opinion does exist that our missile-carrying submarines are inferior to the Americans' in terms of quality parameters and in the face of

strong ASW defenses—which the United States possesses—they could be destroyed even in the nonnuclear phase of a war.

But everybody knows that modern missile-carrying submarines do not need to overcome enemy ASW defenses, because the weapons' specifications allow you to plan the areas of combat operations in your own coastal waters. Given that we organize a reliable defense for such areas, and that we have Typhoon and Dolphin class missile-carrying submarines, we will be able to maintain a pretty awesome maritime component capable of resolving the combat task successfully.

It is important here to pay attention to the quantitative limit on SLBM warheads. It was actually the Russian side which strove for and succeeded in getting this limit down to the level of 1,750 units—which corresponded to our plans for the year 2003. Whereas by then the Americans could have had as many as 3,456 warheads on their Trident-2 SLBM's. The maximum level as set by the treaty forces the United States to limit a main component of its strategic triad—that is, the naval one. We will not have to do that with regard to our naval grouping.

It greatly concerns the authors of a number of articles that the START II treaty will, so they claim, help to give impetus to American work on developing [sozdaniye] ABM defenses. This will lead to a situation whereby the United States, in the absence of Russian MIRV'd ICBM's, will be able to destroy practically all our missiles and remain completely invulnerable itself.

It is necessary to remind the reader that the legal basis for both Russia and the United States to develop ABM systems is the 1972 Treaty. It reflects the organic interrelationship between defensive and offensive strategic arms. The greater the reduction in strategic offensive arms, the greater the ABM Treaty's stabilizing role. It is for this precise reason that, at our insistence, the preamble to the START II treaty records the sides' commitment to observe all the provisions of the 1972 treaty.

Our hard line on preserving the ABM Treaty and reinforcing the treaty regime is having a positive effect on Washington's policy as well. On 13 May the U.S. leadership announced a review of the SDI program and the plans to develop ABM systems. Now Washington is placing the emphasis on means of combating not ICBM's but nonstrategic ballistic missiles.

Finally, a word about the economic aspect of the question. Many writers try to resolve this question by confronting it, so to speak, "head on," assessing only what it will cost Russia to destroy the strategic arms stipulated by the treaty. This will indeed require major financial resources. For some reason, though, nobody is considering the fact that the arms subject to reduction would sooner or later have become obsolete and would have had to be destroyed anyway. [passage omitted]

SPACE ISSUES

Satellite Launch To Coincide With Expo-93 Under Threat

*LD1407151093 Moscow ITAR-TASS in English
1401 GMT 14 Jul 93*

[By ITAR-TASS correspondent Semyon Ivanov]

[Text] Moscow July 14 TASS—The launching of a Russian space apparatus “Resurs-Expo” from the Plesetsk Cosmodrome, scheduled for 7 August to coincide with the opening of the international exhibition “Expo-93” in Taejon (South Korea), is in question, ITAR-TASS learned from reliable sources today.

Apart from the problem of financing the project, which remains unresolved, there is no resolution by the Russian Government authorizing the project, while the time left before the scheduled start is obviously not enough to make proper technical preparations for the flight.

The project, called “Space Flight to Expo-93,” has been designed to be similar to the flight of the space apparatus “Resurs-500,” launched from the Russian Cosmodrome Plesetsk to Seattle (USA) in 1992, in accordance with the programme “Europe-Amerika-500.”

A possibility of carrying out the space flight to “Expo-93” was discussed in April, 1993 by representatives of the Expo-93 organizing committee and experts from the Samara-based central special design bureau of “Resurs” type space apparatuses.

Apart from giving foreign companies a chance to use the Russian space apparatus for advertising their products in the framework of the exhibition, the project was aimed at illustrating the possibilities of modern space technologies and promoting the development of business cooperation between Russia and South Korea.

The space apparatus, weighing 5,600 kilograms, was expected to be put into the near earth orbit by the “Soyuz” booster rocket, to be subsequently followed by the separation of the descending capsule (2.3 meters in diameter and weighing around 700 kilograms), expected to splash down in the specified area of the Yellow Sea near the coast of the Korean peninsula.

The Russian ship Marshal Krylov, scheduled to be floating in this area at the time of the splashing, was to ensure detection, search operations and the delivery of the descending apparatus to Taejon by one of the two helicopters on board the ship.

The capsule was to carry messages of greeting by the presidents of the Russian Federation and South Korea to participants in the international exhibition, drawings made by children and advertisements of industrial companies and firms. The cost of the project was estimated around 50 million dollars.

Much of the project was to be financed by sponsors, mostly from South Korea. The outer surface of the booster rocket, the body and a parachute of the descending apparatus, 600 square meters in size, was expected to be used for putting up advertisements of those companies which had made investments into the project.

Launch of Space Forces Satellite

*LD1507103693 Moscow ITAR-TASS World Service
in Russian 0932 GMT 15 Jul 93*

[By ITAR-TASS freelance correspondent Semen Ivanov]

[Text] Moscow, 15 Jul—Yesterday evening at 2040 Moscow time, the Military Space Forces of the Russian Federation Defense Ministry launched space apparatus Cosmos-2259 by means of a Soyuz carrier rocket from the Plesetsk cosmodrome.

An ITAR-TASS correspondent was told at the Military Space Forces press center that the satellite has been put into an orbit close to the calculated one. The launch was carried out in the interests of the Russian Federation Defense Ministry.

Control of the satellite is being carried out by the Main Center for Control and Testing of Space Apparatuses, located in Golitsino-2 near Moscow, which is part of the Military Space Forces structure.

U.S. Firm To Buy Russian Space Module

Eighteen Million Dollar Deal

*LD0907201993 Moscow Ostankino Television First
Channel Network in Russian 1700 GMT 9 Jul 93*

[Video report by correspondent Petr Orlov; from the “Novosti” newscast]

[Text] The U.S. company Rockwell International is reported to be buying a Russian docking module for the space shuttle. The deal is worth 18 million dollars for the module, spare parts, and services of Russian specialists.

The docking module was designed at the Energiya bureau and could become the standard for all spacecraft and stations. It will be fitted onto the Atlantis shuttle, which in 1995 is due to fly to the Mir orbital station.

TV Report

*PM1307145393 Moscow Ostankino Television First
Channel Network in Russian 1700 GMT 9 Jul 93*

[From the “Novosti” newscast: Video report by Petr Orlov, identified by caption]

[Text] [Orlov over space scene] This can probably be considered an ideal example of a Russian space technology sale. On Saturday the flight control center and two crews in space carried out an incredibly complex

linkup. Then the following report came in last night: The U.S. company Rockwell International is buying a Russian docking system for the shuttle. The contract is worth a total of \$18 million. The sale involves the actual docking system together with spare parts and the services of the Russian specialists who are perfecting and testing it. According to experts, this creation of designer Vladimir (Zaramyatnikam?), from the Energiya Science and Production Association, is one of the most reliable in the Mir orbital system. It could become the standard for all types of spacecraft and stations. Like, for example, the transistor, which is used in electronic devices irrespective of nationality. The chances of this are not very great but they do exist. Anyway, for the time being, this docking system will be fitted to the U.S. shuttle Atlantis, which is to make a flight to the Mir space station in 1995. And its crew can start learning the difficult Russian commands now. [Russian commands can be heard] [video shows space scenes, spacecraft, shuttle]

Russian-Indian Space Deal Under Discussion

Foreign Ministry 'Source'

*LD1307162893 Moscow ITAR-TASS in English
1600 GMT 13 Jul 93*

[By ITAR-TASS correspondents Veronika Romanenkova and Georgiy Shmelyov]

[Text] Moscow July 13 TASS—The fate of the Russian-Indian space deal opposed by Americans will be decided by top Russian leaders, according to a source in the Russian Foreign Ministry.

It told TASS on Tuesday that proposals on solving the problem "have been submitted to the supreme leadership of the country." No other details were disclosed.

In the meantime, Yuriy Koptev, director general of the Russian space agency, left for Washington on Tuesday to discuss the problem, TASS learned from reliable sources close to Glavcosmos.

The deal provides for Russian shipments of two cryogenic rocket engines which can place satellites into geostationary orbits. Russian experts say the engines cannot be used for military purposes, but US authorities insist that the deal violates the non-proliferation regime for missile technologies and threatened sanctions against Russian space agencies.

Radio Commentary

*LD1307193093 Moscow Radio Moscow World Service
in English 1710 GMT 13 Jul 93*

[Announcer-read commentary by Vladislav Kozyakov]

[Excerpts] The United States corporation Rockwell International and the Russian enterprise Energiya have agreed that Americans will acquire in Russia a docking unit for spacecraft. This commentary was provided by Vladislav Kozyakov:

The unit will be fixed at the Atlantis shuttle. It will dock the American spacecraft in 1995 on the Russian outer space orbital station Mir. Rockwell International representatives have said the contract will cost \$18 million. It will include the docking system, spare parts for it, and the ground and aerial test services by Russian experts.

Energiya designers believe the docking unit may be used by Americans not solely for the Atlantis ships, but for other shuttles on operations to dock space ships in outer space. It could be multi purpose for such sorts of operations, because it is well designed and has been tested many times.

Significantly, the deal between Energiya and Rockwell International could be described as the tip of the iceberg in terms of the commercial potential of the Russian outer space industry.

For example, Rockwell International has agreed to cooperate with Energiya in developing joint outer space projects for the future, including flights to the Moon and Mars. Experts also consider the use of spacecraft Soyuz to rescue, if need be, crews of the United States outer space station Freedom.

According to experts, the use of Russian technology in building the Freedom station could save the Americans at least \$2.5 billion.

The commercial use of Russian achievements in the peaceful development of outer space attracts not solely Americans. [passage omitted]

Many countries would like to maintain cooperation with Moscow in the peaceful exploration of outer space. Take the contract for deliveries of Russian cryogene [as heard] boosters for spacecraft, which India would like to use for launching civilian satellites. That contract costs \$350 million.

This Russian-Indian trade operation has caused a negative reaction in Washington, which saw it in the light of proliferation of rocket technology and weaponry. Russia and the United States are conducting talks on the issue.

However, many experts ask: Is the United States' stand prompted by the desire to hamper the trade freedom? India has signed a contract on the cryogene boosters with Russia, because it believes Russian conditions are more beneficial than those offered by the United States and the European Community.

Talks Begin With U.S.

*LD1407223793 Moscow ITAR-TASS in English
2100 GMT 14 Jul 93*

[By ITAR-TASS correspondent Andrey Loschilin]

[Text] Washington July 15 TASS—The U.S.-Russian talks resumed here, which are centred on settling differences between Washington and Moscow over the agreement on the sale of rocket engines to India, as

well as on prospects for bilateral cooperation in space. On Wednesday, the Russian delegation led by Director General of the Russian Space Agency Yuriy Koptev met U.S. Undersecretary of State for International Security Affairs Lynn Davis. Later in the day, talks were held with director of the National Aeronautics and Space Administration (NASA) Daniel Goldin, U.S. Assistant Administrator at Trade Negotiations Peter Alleier and officials of the U.S. National Security Council.

The U.S. Administration believes that the agreement on the sale of cryogenic engines to India violates the regime of rocket technologies spreading across the world. Russian representatives argue that these engines cannot be used for military purposes and are inclined to account for the U.S. stand by the country's striving for keeping possible competitors out of the world market of space techniques. This issue was already discussed here last month by representatives of the two states, however the parties failed to reach any agreement.

Fifty Million Dollar Contract Signed With European Space Agency

LD1107034493 Moscow Radio Moscow World Service in English 2100 GMT 10 Jul 93

[Text] The European Space Agency [ESA] and the Russian agency Energiya have signed a \$50-million contract to send two Europeans to the Russian space station Mir. A spokesman for the Russian delegation to the ESA-Energiya negotiations says four trainees will arrive at the Russian cosmonauts training center in about a month's time. The first flight will take some 30 days. It has been tentatively scheduled from September 1994.

Scientist Disputes Worth of Plasma Weapons

MK0807111093 Moscow NEZAVISIMAYA GAZETA in Russian 8 Jul 93 pp 1, 2

[Interview with Aleksey Kuzmin, chief designer of AWACS and space control systems, associate of the Telecommunications Research Institute, by Andrey Vaganov in "Armaments" column: "Russia Has No 'Plasma Weapons.' And it Is Not Likely To Get Any in the Foreseeable Future," place, date not given—first two paragraphs are introduction]

[Excerpts] Prior to the April summit in Vancouver between the presidents of Russia and the United States IZVESTIYA (2 April 1993) published a sensational story under a front-page banner headline: It was about the possibility of the summit's discussing a joint large-scale Trust project, proposed by the Russian side, to repulse missile attacks with the help of so-called plasma weapons. The physical essence of the experiment could be briefly summed up as follows. Before any object moving in the earth's atmosphere a plasma cloud is created by a ground-based SHF [super-high frequency] emitter or laser generator, which (according to IZVESTIYA) "... fully destroys the flight aerodynamics of a missile or aircraft. The object leaves its path and

disintegrates under tremendous pressure." It also provided a plan of the experiment and a commentary by the author of this idea, Rimil Avramenko, chief designer at the Scientific and Research Radio Engineering Institute.

I have already had occasion to point out (NEZAVISIMAYA GAZETA No. 113 of 19 June 1993) the strange absence of any information about the results of the discussion of this undoubtedly outstanding experiment, that is, if it ever took place at the April summit. Just recently NEZAVISIMAYA GAZETA came by additional information shedding light on some aspects of the problem of developing "plasma weapons." I asked Aleksey Arkadiyevich Kuzmin, general designer of missile attack early warning and space control systems, an associate at the Telecommunications Research Institute, to comment on this information.

Vaganov: The report about a proposed joint "plasma weapon" experiment has provoked a stormy reaction in the Russian press. What was the reaction to it in the West?

Kuzmin: These articles, in particular in IZVESTIYA, were reprinted and commented on by many U.S. papers. For the most part this information was perceived across the ocean as absolute truth, although some publications did voice their doubts. This question now has not only a scientific and technical but also a political dimension.

Vaganov: Presumably, this has to do with the fact that the Trust project directly bears on the Soviet-U.S. Treaty on the Limitation of Antibalistic Missile Systems [ABM] of 1972?

Kuzmin: Generally speaking, the ABM problem has several aspects. Somewhat simplifying the situation, all ABM systems can be divided into tactical missile ABM systems and strategic missile ABM systems. Avramenko's proposals are basically concerned with strategic ABM systems. In 1972, as a result of lengthy negotiations, the sides came to the conclusion that ABM systems, if they are not limited by a particular framework, are a destabilizing factor. Therefore when the issue of ABM system development is raised, this provision is automatically called into question. But both on our side and on the U.S. side there are some people and organizations that are trying at the very least to expand the restrictive framework that was adopted in 1972. The main limitation, it will be recalled, is that ABM systems may be created solely in one of two districts: around the capital of a corresponding state or around one of the ground strategic force bases. The Americans chose the second option, and we chose the first. Interestingly, the Americans fairly quickly froze work on developing a strategic ABM base. **Vaganov:** How would you account for this: by the fact that such systems are extremely complicated, or because they have failed to put it in place for some other reasons?

Kuzmin: No, the U.S. ABM system created at the time was fairly perfect. But the whole point is that it is very difficult to ensure protection of a particular object by this method.

Deterrence was and still remains the main means of counteracting a missile attack. By this is meant not direct defense against missiles, but a means that allows without fail to ensure such a response that a) would always be adequate to the attack itself; and b) would always strike a blow against an enemy in such a form that the enemy would suffer greater damage.

There are facilities in Russia which ensure control—and this is the most difficult condition—of information about attack: single, group, or massive, planned or accidental. There is an instrument system that has been on alert duty for 22 years. Over the last seven years I have been general designer of this system. And the experience of the last few decades has shown that our system is operating fairly reliably. During this time there have been various instances which, in the absence of such systems, could have led to conflicts.

In other words, two paths could be used: direct defense and the creation of means to prevent a nuclear attack—mutually assured destruction. But many, including the Americans, are not satisfied with this policy. To live under the threat of any fear is simply unacceptable for the Americans—such is their mentality. This is why time and again they, as well as we, have come out with proposals to move away from mutually assured destruction as a means to prevent war into the sphere of direct defense. And this approach is not meaningless in principle, although as far as I am concerned, I think that it is incorrect since, I repeat, any strategic ABM system is a destabilizing factor.

On the other hand, proliferation of nuclear weapons is a reality. Therefore it would be wrong to say that in 1972 we concluded a treaty and that we must live according to it for the next hundred years. New aspects will appear. The question about ABM development remains legitimate. But as to which ABM systems, this is another matter.

Vaganov: This is on the philosophical side of the issue, so to speak. Now let us talk about the equipment.

Kuzmin: Naturally, many scientists are thinking about what new proposals could be made to resolve the ABM task. Today, however, the question should be raised not about defense of any particular target but of a multitude of targets, or even an entire territory, from single missiles. And interest exists in many countries as to how to make this better and cheaper. One of the proposals along this line is the Trust project by Rimiliy Avramenko and his colleague on creating "plasma weapons."

Vaganov: What are the purely physical foundations of this idea?

Kuzmin: Complex ballistic targets include not only warheads proper but also decoy targets. To identify them is a complicated selection task which has not been unequivocally resolved up to now. Radiation destruction means—laser and SHF means, as proposed in the Avramenko project, seemingly resolve this task in principle since the number of equivalent responses is unlimited. In other words, all targets—both genuine and false—could be destroyed consecutively. This is attractive. Second, it would include nonnuclear interception. If only it could work just as well!

Vaganov: Presumably, there are some limitations here since you are talking about "plasma weapons" in the subjunctive mood?

Kuzmin: Indeed, with the help of large phased-array [fazirovonnaya] antennas—tens of thousands of emitters organized in a certain fashion—it could be possible to concentrate a beam of electromagnetic energy in a fairly small volume. It is with the help of this focusing of energy that warheads are supposed to be destroyed. Current estimates show that the energy flow needed to destroy a warhead frame by heating is between 10 and 100 KJ [exact expansion unknown, possibly kilojules] per square centimeter. These are very, very high magnitudes. All attempts to find ways of reducing them—and I have also taken part in these attempts—have failed. [passage omitted]

Vaganov: How would you comment on this statement from IZVESTIYA's article: "... research on this subject has moved from laboratory walls to a full-scale [naturnyy] experiment?"

Kuzmin: As far as I know, a full-scale experiment is the continuation of those laboratory experiments that preceded the invention itself. Yes indeed, on an earth trajectory—hundreds of meters—plasma discharges were created, and an object under investigation (roughly speaking, a bullet) deviated from its usual path. I think that this is precisely what is meant with the "full-scale experiment" mentioned in the article.

No one questions the influence of SHF discharges on aerodynamics. But the scale of this influence, according to a majority of experts, including myself, is very negligible.

When this line of investigation was beginning (many other scientists and organizations were involved in this work in addition to Avramenko; considerable funds were spent), the targets were warheads of a particular class that were in service in the armed forces at the time. By present-day standards they were not very strong. For instance, modern warheads can penetrate several dozen meters (!) deep into the ground without being destroyed. Now compare this: Can this kind of warhead be destroyed by the impact of "plasma weapons"? This, of course, is not strict physical proof of the prematureness of any talk about "plasma weapons"—it is merely a comparison, but it gives some idea of the problem

involved. The conditions for causing damage by "plasma weapons" have not been sufficiently elaborated, even in theory.

Vaganov: What do you think brought about this appeal to the U.S. Administration on conducting a full-scale Trust experiment, which implies a profound obligation?

Kuzmin: Nothing but the incompetence of some officials, on one hand, and Rimiliy Fedorovich Avramenko's persistence on the other.

Vaganov: And if this business came off, that would mean appropriate funding....

Kuzmin: This is one of the main reasons.

Vaganov: But the institute where you work and the institute where Avramenko works are affiliated with the same intergovernmental joint-stock corporation, Vym-pel. Did you have any preliminary discussion of this project?

Kuzmin: No, there was no discussion—for fairly understandable reasons: With the exception of the project's author, all other specialists do not share his viewpoint on the immediate prospects of "plasma weapons." And since the Trust project looks very attractive, it was very easy to get it through high-placed but incompetent, in this particular area, state bureaucratic barriers.

Vaganov: It seems that Clinton has competent advisers who gave him the right recommendation at the right moment?

Kuzmin: I would say that it was our president's aides who proved to be more competent and more cautious. Yeltsin went to Vancouver with an agenda that did not include this question. In the draft it was present, yes. But only in the draft.

Vaganov: In other words, we have therefore saved a few billion?

Kuzmin: First of all, we have saved our scientific prestige. It was wrong to make this sort of proposition without serious consideration, without a serious discussion in the first place. I believe that at present there is no reason to discuss such projects, I am sure. I am convinced that a majority of experts also think so. The Trust project is a crazy idea. But not the direction of work as such.

Joint Space Expedition With France

Blast Off 1 July

*LD0107151093 Moscow ITAR-TASS in English
1453 GMT 1 Jul 93*

[By ITAR-TASS special correspondent Andrey Naryshkin]

[Text] Baykonur cosmodrome July 1 TASS—The Russian-French space crew blasted off successfully from the

Baykonur cosmodrome at 1833 Moscow time on Thursday onboard the "Soyuz TM-17" spaceship.

The crew consists of Russians Vasily tsibliyev, the commander, Aleksandr Serebrov, the engineer, and Frenchman Jean-Pierre Haignere, the researcher.

The spaceship is to dock with the "Mir" orbiting station on July 3 where the crew will engage in joint experiments with the main expedition consisting of cosmonauts Gennady Manakov and Aleksandr Poleshchuk.

According to telemetric information the systems of the "Soyuz TM- 17" are functioning normally, the cosmonauts feel fine.

Space Docking Accomplished

*LD0307165993 Moscow Mayak Radio Network
in Russian 1540 GMT 3 Jul 93*

[Excerpts] We have the Flight Control Center on the line to the Panorama studio. My colleague Vladimir Bezyayev is there. Vladimir, can you hear us?

[Bezyayev] Yes, I can hear you, good evening to you in the studio, good evening esteemed listeners. More important work in orbit is under way. When people leave on a space flight, they have three basic problems: they have to blast off, to dock, and to land. Today we have the second most important task. The Soyuz TM-17 spaceship, with a Russian-French crew on board, has completed its approach and come up to the Mir orbital complex.

This is where it gets very interesting. Just imagine, you have been invited to visit someone and the doors are closed. That is what happened on this occasion: all the docking fittings on the Mir orbital complex are occupied. And there is another special thing about this docking: for the first time, the cosmonauts have been instructed to observe a ship's movement away from the station. Everyone knows that they move away, but no one has seen how it takes place, and they will be filming how the Progress cargo ship moves away, and then, when a docking fitting is left free, then they will dock in that place.

This has never happened before, it is also a kind of experiment, but Vasiliy Tsibliyev, the commander of the crew, with whom we have just had a conversation, says he is ready for everything. [passage omitted: correspondent reminds listeners who is on board the spaceship and outlines their mission]

We are already receiving television pictures from the TM-17 spaceship of the Mir orbital complex. It is an astonishingly beautiful sight, an astonishingly large and major station. But so far, as they say, all the gates are closed, and we will also be watching then how the cargo ship moves away and leaves a space for the docking.

That is all from me for now, everything is going to plan for now.

[Moscow Mayak Radio Network in Russian at 1630 GMT on 3 July adds the following report by Vladimir Bezyayev live from the Flight Control Center:

"Good evening, esteemed listeners. Usually our news is not so cheerful these days, but now I am very glad to say that a very important and major piece of work has been carried out. The Soyuz TM-17 spaceship, with a Russian-French crew on board, has just docked with the Mir orbital complex."]

Further Report

*LD0307182793 Moscow ITAR-TASS in English
1819 GMT 3 Jul 93*

[By ITAR-TASS correspondent]

[Text] Moscow July 3 TASS—The Soyuz TM-17 spacecraft docked with the Mir orbiting station at 20:24 Moscow time today, sources at the ground Mission Control Center report.

The international Russian-French crew has begun joint work. The program of flight of the five cosmonauts includes medical, biological and scientific-technical research and experiments, as well as the transfer of station duty to the 14th main expedition.

The docking of the Soyuz TM-17 and the Mir station was done after the separation from the station of the Progress M-18 cargo spacecraft. The process was monitored and filmed by the piloted craft crew.

On July 22 cosmonauts Gennadiy Manakov, Aleksandr Poleshchuk and Jean-Pierre Haignere will return to the Earth on board the Soyuz TM-16 spacecraft, and Vasiliy Tsibliev and Aleksandr Serebrov will continue the work on board the Mir orbiting station.

Space Program Assessed

TV Program on 'Dramatic Times'

*PM0507095993 Moscow Russian Television Network
in Russian 1000 GMT 1 Jul 93*

[From the "Vesti" newscast: Video report by A. Peslyak, identified by caption; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Text] [100524] [Peslyak over video of cosmonauts Serebrov, Tsibliev, and Haignere being interviewed, followed by pictures of last year's crew] And so, Cosmonauts Serebrov, Tsibliev, and Haignere followed the same routine today—putting on spacesuits, bus journey, launchpad—as this Russian-French space crew did exactly a year ago.

[Peslyak over graph of MIR station] This is the first time that a crew will dock with the Mir station in conditions where all docking units are occupied. It will be necessary to undock the Progress cargo craft.

Meanwhile, let us turn our thoughts to the fate of the space program. As an indicator of the country's intellectual and industrial potential, it is going through dramatic times. Commercialization has been suggested as one possible solution. Therefore this, and three other French space flights, and the launches of Western communication satellites with the help of our rockets, represent both profits totaling tens of millions of dollars and support for a sector which 17,000 scientists and other staff quit last year. But it is not easy to conquer the world market even with unique engines from Obninsk, a docking unit, Proton rockets, and a Mars buggy. The laws of competition hold sway in this sphere. Furthermore, it is difficult for Baykonur to stay on form when, instead of money, all it receives are CIS documents.

In short, both the cosmonauts, and we who will remain on Earth, are thinking about economics and politics, about the interests of state and mankind's gain. [100631] [video shows cosmonauts being interviewed, last year's Russian-French crew prior to launch, graph of the Mir stations, space station and flight control center footage, soldiers and goats in Leninsk, blastoff]

Space Defense Still On

*LD0807163993 Moscow ITAR-TASS in English
1403 GMT 8 Jul 93*

[By ITAR-TASS correspondent Andrey Naryshkin]

[Text] Zvyozdny Gorodok, Moscow region, July 8 TASS—"Russia is interested both in manned space flights and the implementation of the national military space defence programme, with due regard for the appropriations which the state can assign for the purposes," General of the Army Pavel Grachev, Russian minister of defence, told ITAR-TASS in Zvyozdny Gorodok (Star City) on Thursday.

Funding cutbacks "should by no means tell on the number of spacecraft that are both in stationary and elliptical orbits," he emphasised.

The defence minister visited the Cosmonauts' Training Centre where he acquainted himself with leading experts' opinions about the problems and prospects of military space defence programme.

In response to journalists' questions, the minister emphasised that from now on space flights will be made not only by Russian cosmonauts but by mixed crews as well, "Franco-Russian ones, to a larger extent." He expressed dissatisfaction with Russia's existing system of the distribution of currency funds for the accomplishment of space programmes in the interests of third countries.

A major share of expenditures connected with the training of cosmonauts, the transportation of machinery and personnel by Baykonur and technical support for space flights are borne mainly by space defence forces

and the Cosmonauts Training Centre, whereas currency revenue enter, mainly, the accounts of the Russian Space Agency, Grachev said.

"I instructed Petr Deynekin, commander-in-chief of the air force, and Petr Klimuk, head of the Cosmonauts Training Centre, together with the Russian Space Agency to draw up an agreement on profit quotas," the defence minister said.

Grachev once again emphasised his unchanged position on the status of Baykonur Cosmodrome. Recalling that the share of Russia in financing the cosmodrome "is more than 90 per cent," he stated that the cosmodrome must be recognised as a "Russian military space defence base or a centre on the territory of Kazakhstan."

Russian-Kazakhstani Space Program Problems Examined

LD0207093393

[Editorial Report] Moscow Ostankino Television First Channel Network in Russian at 1850 GMT on 1 July carries a 10-minute program, "Questions Raised by Space," reporting on the launch of the Soyuz TM-17 spacecraft on 1 July and rounding up recent space developments in Russia and the CIS.

The program opened with a report outlining the project schedule and noting the French participation. The correspondent went on to explain the problems facing the Baykonur space center. He said the personnel at the center are suffering from professional dissatisfaction, day-to-day problems, and a lack of hope. Moreover, he said, the town and the testing ground have become the center of a political struggle over ownership. He explained the position of the Russian military space forces and the Kazakhstani authorities.

Continuing, the correspondent said that the Russian military-industrial complex is also involved in the squabble. In spite of its great intellectual potential, it is losing important opportunities because of a lack of money, he said. An example of this is the Buran program, which was abandoned at the end of June. The military-industrial complex, the correspondent went on, is proposing that a sort of joint-stock space center be set up at Baykonur, to be founded by any interested parties, including foreign space agencies. He added that there would probably be a lack of investors willing to finance such a project these days.

The correspondent continued: "All these problems were discussed at the space center by Russian and Kazakh Governmental delegations on the day when the international crew blasted off. But as expected, they once again failed to adopt any specific decisions. All they did was sign a protocol on the need to search for effective measures to preserve Baykonur and determine a few initial actions to prepare the space center for winter and maintain its activity. This will require approximately 23 billion rubles before the end of the year. Meanwhile, the

Russian and Kazakhstani Defense Ministries came to an agreement on the carrying out of military service by republican citizens in Russian military-space units. The first 5,000 young Kazakhs will arrive at the space center as early as July, Defense Minister Grachev said. No one is prepared to predict what the consequences of this will be. And the most acute question, of course, remains unanswered: the status of the town and the testing ground, and their prospects for the future."

Video shows semi-constructed Buran spacecraft, shot from various angles, and another spacecraft; personnel; officials inspecting the space center; and more pictures of space center.

The correspondent continues to explain the agreement signed this week on the development and production of a rescue system for the Ariane-5 rocket booster, involving the Russian Parachute-Building Institute, the Spanish firm Simsa, and the Dutch company Fokker. He pointed out that the contract represented the beginning of Russian participation in the production of new-generation European rockets. Today's launch also reflects Russia's deepening involvement in the European space program, he said.

Concluding, the correspondent outlined other international space projects that may involve Russia in the next few years, provided that the necessary funds are made available for Russian plans to be realized.

TV Program on Baykonur Cosmodrome

PM0207133193 Moscow Ostankino Television First Channel Network in Russian 1850 GMT 1 Jul 93

[From the "Questions Raised by Space" program: Video report by Gennadiy Gerasimov; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Excerpts] [185209] [This 10' program on space issues, attributed to ITA opened with a picture of the Russian and French flags under the program title: "Questions Raised by Space" over the NOVOSTI signature tune]

[185214] [Gerasimov over video of launchpad, blastoff] Simply incredible: Just over an hour before the launch the lights went out at Baykonur today. Then they came on again. But the launch went ahead, precisely on schedule. This would have been acceptable probably only during Korolev's time. At that time all possible fail-safe features were built into the Soviet space program to protect it against all probable and improbable problems from power failure to infiltration by foreign spies. But it was assumed that with time life at the cosmodrome would get better. However, it seems that currently all the safety reserves at Baykonur are running out. Launches are nonetheless continuing.

This is the fourth joint space flight with a French researcher. And it will be the longest—21 days, 19 of which will be spent on the orbital complex. Jean-Pierre

Haignere's work program is utterly pragmatic. Only a year has passed since Michel Tognini's flight with a Russian crew. All the French equipment is still intact and operating, and it has been decided to draw from it as much practical benefit as possible for space medicine and for the hypothetical construction of a French orbital station. And so the slogan "One Frenchman in space every year!" has proved very easy to implement. Especially since the French Space Center is paying some \$30 million for this and the next spaceflight.

Vasiliy Tsibliyev and Aleksandr Serebrov will relieve Gennadiy Manakov and Aleksandr Poleshchuk. Their flight will last 147 days and include three spacewalks, including one external inspection of the station using a "flying chair." [video opens with views of launchpad, followed by blastoff, and pictures of current and previous Russian-French space crews]

[Gerasimov over video of blastoff again] From this moment onward the crews will be solving difficult theoretical problems, having left practical problems behind on earth.

It is difficult to find anyone at the cosmodrome—with the exception of the cosmonauts, of course—who is happy that their life has taken them to Baykonur. Involvement in the space program has changed from being a cause of pride to being a cause of sadness resulting from job dissatisfaction, the hardships of daily life, and a sense of hopelessness. Together with the test site, the city with a population of 100,000 has fallen hostage to the political struggle triggered by the disintegration of the Soviet Union.

There are at least three parties trying to lay claim to this unique scientific and technical complex. First, the Kazakh authorities who, legally, became masters of the cosmodrome with the stroke of a pen—the signing of the decree on nationalization by Nursultan Nazarbayev. Second, the Russian Military Space Forces, who settled here back in Soviet times and who hold the real power and the finances. And third, the military-industrial complex organizations which invested vast sums of money in Baykonur at the time and which, naturally, do not want to lose their experimental base and the possibility of continuing space research. [video shows extensive views of Baykonur and Leninsk city]

So what is actually happening here? It has been said that this is a Central Asian Carthage, a ruin of late 20th century civilization. Because of inadequate investment, technological facilities, housing, roads, and underground utilities are falling into a catastrophic state of disrepair. [video shows delapidated buildings] Given half a chance, people are leaving here without looking back. There has been a sharp rise in the crime rate. Those who remain are having to work without weekends in order to ensure that space launches go ahead on schedule. Is there a way out of this situation? Each of the interested parties is putting forward its own solution.

The Military Space Forces are insisting on the need to bestow on Baykonur the status of a Russian military base on Kazakhstan's territory with all the ensuing consequences—noninterference in its operation by the local authorities, its own funding and supply, and total control of everything that still remains at the cosmodrome. Incidentally, this stance also has the support of Russian Defense Minister Pavel Grachev.

Kazakhstan categorically disagrees with this, and it is not likely to change its mind in the next few years. National self-awareness and the republic's sovereignty will not allow it.

[Vitaliy Brynkin, head of Leninsk City Administration, identified by caption] Kazakhstan needs the cosmodrome because the cosmodrome can produce effective returns for Kazakhstan's national economic and scientific complex.

[Gerasimov over video of launch site] At the same time the Kazakhstan authorities, guided by oriental wisdom, are, step by step, unhurriedly, strengthening their positions at the cosmodrome. Not a single important decision is nowadays taken without the local administration. In all the units at the cosmodrome which are part of the Russian Army, special departments, i.e. counterintelligence organs, are now subordinate to the Kazakhstan Ministry of Security. In the near future the protection of the Baykonur facilities, the entire security system, and law enforcement work are to become the responsibility of an internal troops brigade from Almaty. The Russian military are forced to accept such terms since their own resources are clearly insufficient. But only Allah knows how the confrontation between two armed formations from two different states on a single territory may end. Incidentally, Allah does not exactly favor the third party in the dispute—the Russian military-industrial complex—either. The military-industrial complex, with its great intellectual potential capable of fundamentally new advances in space exploration, is simply having to close down its programs for want of money. One of these programs—the Buran space shuttle—died last June. [video shows Buran hangar] Neither this one, which has already flown, nor the completely finished new beauty is likely to fly again. Only very wasteful, reckless people can permit themselves to have such expensive museum pieces. And so the military-industrial complex is putting forward its own option for resolving Baykonur's problems—the organization on the basis of existing facilities of a kind of joint-stock cosmodrome whose founders could include all interested parties, including foreign space agencies. This option would also suit the Kazakhstan authorities. But it is highly dubious that solid investors can be found today prepared to risk their money for such an uncertain affair. And so there are many more questions than answers at Baykonur today.

All these problems were discussed at the cosmodrome by Russian and Kazakh government delegations on the day of the launch of the international crew. But as expected, once again, they failed to adopt any specific decisions.

All they did was to sign a protocol on the need to search for effective measures to preserve Baykonur, and to define a number of priority measures to prepare the cosmodrome for winter and preserve its ability to operate. This will require approximately 23 billion rubles until the end of the current year. Meanwhile the Russian and Kazakhstan Ministries of Defense have reached agreement on military service by [Kazakhstan] republic citizens in the Russian Military Space Units. According to a statement by Minister of Defense Grachev, the first 5,000 young Kazakhs will arrive at the cosmodrome by the end of July. No one is prepared to predict what consequences this will entail.

Meanwhile, the most acute question—the status of the city and the test site, and their future prospects—remains unanswered. [185843] [video shows very extensive views of Baykonur facilities and blastoff]

[185843 thru 190200—passage omitted detailing recent agreement between Russian Parachute Institute and Spanish and Dutch Companies for a rescue system for the Ariane-5 booster (Itar Eng/291840) over computer-generated pictures of Ariane and also of the U.S. Freedom space station, in which Russia may participate provided it is prepared to accept U.S. terms; brief interview with Yuriy Koptev, director of Russian Space Agency; concluding with views of Russian parliament and a final shot of today's blastoff, noting that the space budget has been raised to R98.5 billion against the former R72 billion. It remains to be seen whether this will be sufficient in conditions of hyperinflation]

Russian Defense Minister Grachev Discusses Baykonur Cosmodrome

Says Baykonur Is Russian Military Facility

LD0207164293 Moscow ITAR-TASS in English
1255 GMT 2 Jul 93

[By ITAR-TASS correspondent Andrey Naryshkin]

[Text] Leninsk July 2 TASS—"The Baykonur space launching grounds is a Russian military facility. The Russian Federation needs it in this very quality. We will calmly and methodically negotiate with the Kazakh side on its status and fate," Russian Defence Minister Pavel Grachev told commanders of Baykonur military garrison units in Leninsk today.

The Russian and Kazakh state delegations reached an agreement to create expert groups to coordinate disputable issues on July 1 at bilateral negotiations.

Today's meeting discussed a possibility to subordinate military construction units, currently controlled by Kazakhstan, to the command of the Russian aero-space forces.

Russia's Stance Outlined

PM0507101593 Moscow KRASNAYA ZVEZDA
in Russian 2 Jul 93 p 3

[Yuriy Manchur report: "Baykonur: Search for Optimum Solutions"]

[Text] Baykonur, 1 Jul—On 1 July, Army General Pavel Grachev, Russian defense minister, arrived in the city of Leninsk. After the launch of the Russo-French joint crew, a working meeting will be held here between Oleg Soskovets, first deputy chairman of the Council of Ministers-Government of the Russian Federation; the Russian defense minister; Sergey Tereshchenko, head of the government of Kazakhstan; and Army General Sagadat Nurmagambetov, the republic's defense minister. During the meeting they will discuss questions of the status of military formations and the management of the cosmodrome's activity, the control and use by the Russian Armed Forces of property and real estate of military significance, and the maintenance of law and order and security at the cosmodrome. They will also discuss problems facing military construction units and ways of resolving the social questions faced by servicemen who have completed their set period of service and members of their families.

Commenting on his position on the eve of the meeting, Pavel Grachev stressed that the fuss when each republic tried to take upon itself as much responsibility as possible without regard for its real potential seems to be abating. Without Russia and its scientists, specialists, and material, technical, and financial potential, the operation of such complex strategic facilities as Baykonur is virtually impossible.

It is well known that Kazakhstan plans to give the cosmodrome's military formations joint status and, as regards the management of the cosmodrome, it plans to create a unified command and an administration as an interstate organ of management, to form a coordination council headed by the deputy prime minister of Kazakhstan...

These proposals will essentially mean that Baykonur loses the status of a Russian facility. They are unacceptable to Russia.

As for property questions, it is expedient to prepare and conclude at interstate level an agreement which will assign the right of ownership of newly created facilities, buildings, and premises, and of technology, equipment, and other property to be supplied, to the side which provides the finance. At the present moment Kazakhstan's position is that all the cosmodrome's military formations must be under the jurisdiction of Kazakhstan. In the interests of the normal functioning of Baykonur it is expedient to retain Russian jurisdiction over the internal affairs and military services organs and return the cosmodrome's organs of state security and military prosecutor's service to Russian jurisdiction.

The situation in the center's military construction units is causing the defense minister concern: The number of servicemen here has fallen from 30,000 men to 5,200 since the transfer to Kazakhstan's jurisdiction and they are capable of ensuring only social, cultural, and everyday construction needs. As a result the cosmodrome's infrastructure is in a state of neglect. The Russian Defense Ministry has a number of questions in this connection and also on the question of the removal [otseleniye] from facilities of servicemen discharged into the reserve and members of their families. The defense minister intends to ensure that Baykonur remains a Russian installation on Kazakhstan's territory, which does not rule out joint work there in the interests of all the states of the CIS and, of course, Kazakhstan.

Grachev on Baykonur Status

*PM0707101793 Moscow KRASNAYA ZVEZDA
in Russian 6 Jul 93 pp 1,3*

[Yuriy Mamchur and Mikhail Rebrov report: "Is Baykonur To Be a Russian Military Installation? The Question Remains Open, But the Mood of the Cosmodrome's Officers Is Unequivocal..."]

[Text] Baykonur-Moscow—In recent days Baykonur, the planet's first space port, has once again found itself the center of attention. The Soyuz TM-17 spacecraft with a Russian-French crew was launched from here 1 July. This event, significant in itself, provided logical grounds for a meeting between Oleg Soskovets, first deputy chairman of the Russian Federation Council of Ministers-Government, and Army General Pavel Grachev, minister of defense, on the one hand, and Sergey Tereshchenko, Kazakhstani head of government, and Army General Sagadat Nurmagambetov, leader of the republic's military department, on the other. As KRASNAYA ZVEZDA has already reported, on that day the defense ministers signed an agreement on the reciprocal manning of Russian forces stationed on the friendly state's territory—which can only be welcomed in every possible way. At the same time the Kazakhstani side seems to have been not entirely ready to discuss the main issue—that of the fate of Baykonur and the city of Leninsk. An accord was reached to set up expert groups to settle disputed issues.

We would like to believe that this work will not drag on too long: The present state of the cosmodrome and of Leninsk is so dramatic that, unless prompt, decisive, and sensible measures are taken, the process of the collapse of a unique scientific and technical complex could become irreversible. The uncertainty over status and subordination, the interruptions in funding and supplies, the curtailment of space programs, the decrepitude and disruption of municipal services, the exacerbation of the crime situation, and, finally, people's total uncertainty about the future are doing their dirty work. The worst shortage here today is that of containers. No, not the ones for orbiting stations but just the most ordinary railroad containers. The great exodus of lucid minds and

industrious hands from the space port is spreading and gathering momentum month by month.

Officers admit that almost all who have any ties at all with Russia, Ukraine, or Belarus are leaving.... Once the superpower's brainchild and pride, where life was in full swing and the inquiring minds of legendary scientists, designers, and engineers struggled to resolve universal problems, Leninsk is increasingly falling into decline. There are few apartment blocks without the gaping window frames of vacant apartments. And yet the city is just 37 years old. The age, you might think, of its prime and maturity....

The first stone of the No. 5 Range of the Ministry of Defense of the former USSR was laid in the desert, not far from the remote flag station of Tyura-Tam. It would not be out of place to remind you that the decision on the construction site was adopted not without hesitation. Options were considered: the shore of the Caspian Sea, a rayon in Mordovia, and an uninhabited zone in Kazakhstan. They plumped for the latter. The land here is low-grade, security problems are resolved more simply, and the relative proximity to the equator provides an energy boost when launching spacecraft.

The closed city, which was named Leninsk, grew up in a short space of time. Much has been written, photographed, and said about who lived there, how, and what they did. The 100,000-strong population was made up mainly of the families of military specialists who worked in the cosmodrome's launch complexes, the computer center, the ground measuring center, a number of special plants, and so on. More than 1,200 installations and structures were constructed at Baykonur through the efforts of what was then the entire unified country. Servicemen constructed in the city not just 1 million square meters of housing but also 10 schools and more than 30 preschool establishments. Thanks to their efforts above all, Leninsk today has a technical college, and a branch of the Moscow Aviation Institute, a military hospital, and a city hospital have been opened there. The city's birth necessitated the construction of a heat and electric power station and a bakery plant and the laying of hundreds of kilometers of water pipes and heating and sewerage networks.

Given our present inflation, it is hard to speak of the value of the fixed capital, but even what we have listed is enough to give you an idea of the great bulk and very complex mechanism of Baykonur and the city of Leninsk. Of the colossal costs and the professional standards required of cadres for its normal functioning and the maintenance of its vital activity. Can Kazakhstan manage this? Is it capable of operating on its own, for example, the Energiya-Buran launch complex and the Proton and Soyuz launch sites (incidentally, just one of the four Proton launchers is in working condition, and its warranty period has been extended repeatedly)? We believe the answer is self-evident. Particularly if you consider that to date the cosmodrome resolves tasks almost 100-percent in Russia's interests and that Russia

itself operates the main installations and provides the lion's share of the funding and material supplies.

Meanwhile, this circumstance did not prevent Kazakhstan in 1992 from subordinating to itself all the state security and military prosecutor's office organs and now also the internal affairs organs and organs of the cosmodrome's military services—which runs counter to the agreement of 2 October 1992. Is it possible to speak here of guaranteed protection for the rights of Russian specialists and servicemen? It is no coincidence that the Russian Defense Ministry is offering to return the aforesaid services and organs to Russia's jurisdiction for the purpose of maintaining the cosmodrome's normal functioning.

As far as is known, the Kazakhstani side in turn deems it possible to lend the status of joint formations to the cosmodrome's military formations and to create a united command and, along administrative lines, as an interstate organ for the management of Baykonur, a coordinating council headed by a deputy prime minister of Kazakhstan. In the opinion of the leadership of the Russian Federation Defense Ministry, such a solution would finally deprive the cosmodrome of its status as a Russian installation—which could lead to a social explosion among the city's residents and to the disorganization and wrecking of the fulfillment of Russian space programs. It is not hard to see for yourself that the state of the military and civilian personnel and the population has been taken to a dangerous level. You have only to visit the spot and talk with people.

Another important point. According to a norm which is generally accepted in the civilized world, whoever invests money in some projects must also control them. In this connection there has long been an urgent need for an interstate agreement which would assign the ownership rights to newly created projects, buildings, technology supplied, equipment, and other property to the side which provides the finance. We believe that the Russian military department is perfectly justified in proposing to regard such an agreement as being valid not from the moment it is signed, as Kazakhstan insists, but from 31 August 1991, in other words from the moment the latter adopted the law on the transfer of the former Union's property to its jurisdiction.

It could, however, happen that there will soon be no "newly created projects" here at all. After being transferred to Kazakhstan's jurisdiction, Baykonur's military construction units were reduced from 30,000 to just over 5,000 men and today ensure only the construction of sociocultural and domestic projects in Leninsk. As a result, the cosmodrome's infrastructure is falling into disrepair. An extremely adverse social situation prevails in the units—which has led to the sadly well-known revolts, as a result of which great material damage was done to barrack and staff buildings.

In this situation it would be expedient to transfer the corresponding military construction units to Russia's

Military Space Forces and to transform them into repair and reconstruction units. Or to form analogous Russian units. For the full-blooded existence of the latter we ought to draw up the necessary international legal conditions and enlist into them either only Russian citizens on voluntary principles or according to the mixed principle or grant Kazakhstani citizens the opportunity to serve in such units.

The problem of resettling from Leninsk the servicemen who have served the prescribed service times and members of their families is extremely acute in the city. There are 1,116 such families here. Of these, 759 are to return to Russia, 238 to Ukraine, and 84 to Belarus, and 35 are to move to other places of residence in Kazakhstan. But whereas it is planned to construct 500 apartments in Russia for this purpose in 1993 and 30 in Kazakhstan, on the other hand Ukraine and Belarus have virtually abandoned their countrymen to the mercy of fate: They are agreeable to constructing housing for Baykonur veterans on their territory only at the expense of... Russia's Military Space Forces. Totally innocent people are already losing hope that this question will ever be examined by the Supreme Soviets and governments of their native republics.

In short, Baykonur is being beaten down by malicious fate, but it is standing, holding on with its last ounces of strength, and even launching foreigners into space.... You will ask: Why is it standing? Why, given the universal breakdown and disorganization [razdray], is Russia still a great space power?

This is thanks to the honor and dignity of Russian officers. At the defense minister's working meeting with the command personnel of Baykonur's military formations they said without beating about the bush: Whoever places them under whatever jurisdiction, and to whatever flags they are assigned, they are and will be officers of Russia just the same. Yes, Baykonur can be cut off from power transmission lines, and the deep pumps lying 200 meters under the ground can be put out of commission. It can be crushed with taxes and duties. Be deprived of railcars. Not be paid money (the Russian Federation Ministry of Finance owes construction workers alone 163 billion rubles), and it is better not to venture into the street in the city of Leninsk after dark....

But every day 1,067 combat crews are ready to perform tasks "relating to the cosmodrome's purpose," to put it in specific language.

Army General Pavel Grachev, Russian Federation minister of defense, spoke unambiguously of this purpose. Baykonur Cosmodrome must be a Russian military installation. This certainly does not rule out joint work, primarily with Kazakhstan and other CIS countries which wish to assimilate space programs. We will conduct talks calmly and methodically with the Kazakhstani side on Baykonur's status and future fate.

Kazakhstanis, Russians Fail To Reach Accord

*LD0207162493 Almaty Kazakh Radio Network
in Kazakh 0600 GMT 2 Jul 93*

[Text] Talks between Kazakhstan and Russia were held on 1 July to determine the status of the Baykonur cosmodrome. The two sides failed to agree on the final decision and a special commission which will tackle this issue has been set up. Despite this fact, Kazakh Defense Minister Sagadat Nurmagambetov and Russian Defense Minister Pavel Grachev signed a cooperation agreement. The agreement was confirmed by Prime Ministers Soskovets and Tereshchenko. Between 5-10 July, before this decision becomes valid, the Russian Federation will send 1,500-men-strong troops to Baykonur. The total number of Russia's soldiers stationed in Kazakhstan is 6,000. In its turn Russia will educate the military from Kazakhstan at training centers.

Grachev Ends Visit to Baykonur

*LD0207203793 Moscow Russian Television Network
in Russian 1900 GMT 2 Jul 93*

[Video report by correspondent A. Ilyin; from the "Vesti" newscast]

[Text] During their visit to Baykonur a working group of Defense Ministry specialists together with a Russian Government delegation studied for two days the questions of how the cosmodrome should be used in the future and how its status should be defined. In the opinion of Pavel Grachev, so far it has been absolutely clear that without Russian specialists none of the CIS states is able to use on its own any strategic facility, moreover, Baykonur. At the same time, Russia, which continues to pay enormous money and to keep a qualified personnel at the cosmodrome, needs to have guarantees for its rights consolidated in an appropriate agreement. So far an agreement has been reached between the Russian and Kazakhstan military departments under which 5,000 citizens of this republics will begin their service in the Russian military space forces as soon as July.

Pavel Grachev met the cosmodrome's officers' corps today. They unanimously advocated giving Russian status to the cosmodrome.

[Begin Grachev recording] I support their opinion and will do everything I can to persuade the leadership of both Russia and Kazakhstan to give it Russian status.
[end recording]

IZVESTIYA Commentary

*PM0207120593 Moscow IZVESTIYA in Russian
2 Jul 93 First Edition pp 1-2*

[Viktor Litovkin report under general heading: "On Day of Baykonur Launch It Is Still Not Clear Who Will Be Cosmodrome's Owner"]

[Text] Baykonur—The purpose of the visit of [First Vice Premier] O. Soskovets and [Defense Minister] P. Grachev to Kazakhstani soil, so the defense minister declared, is not just to attend the launch of the Soyuz TM-17 craft which is being carried out, as always, by the Russian military—but also to familiarize themselves with the life and activity of Russia's chief cosmodrome, to have meetings and talks with Kazakhstani Prime Minister Sergey Tereshchenko and Kazakhstani Defense Minister Sagadat Nurmagambetov, and to prepare an interstate agreement on the question of the future utilization of the cosmodrome and its unique scientific test and production base.

Officials recognize that a lot of problems really have accumulated at Baykonur, and they have become particularly acute since the breakup of the Union and Kazakhstan's announcement that the cosmodrome is its own state property. The funds are not available to keep up such a huge facility, still less to develop it rationally and to utilize it. Nor are there experienced cadres to organize production work there. The chief space port has recently fallen into such a state that it is now a question of its survival as such.

Kazakhstan proposes its own way out of the situation. Despite the intergovernmental agreement of 2 October 1992 it does not recognize the status of the military space forces at the cosmodrome as Russian, insists on joint leadership of them, and proposes giving the Baykonur administration the functions of interstate management organs and setting up a coordinating council for the management of Baykonur headed by the country's deputy prime minister. But in that case, experts believe, the cosmodrome loses the status of a Russian installation—which could lead to a social explosion among its residents and servicemen and disorganize and disrupt the fulfillment of Russian and international space programs.

Russia insists that the Baykonur space units retain their Russian status, although it does not rule out and even welcomes the possibility of Kazakhstan's citizens, officers, and ensigns serving in them on a voluntary basis. It proposes to use some of the installations as scientific and national economic joint ventures and joint-stock companies in the interests of fulfilling national and interstate programs and also commercial flights.

Experts say that the basic principle here must be as follows: Whoever invests the money and material assets in these installations must control them.

Russia is also seeking to give the cosmodrome's defense installations the status of a military space base under its jurisdiction. At the same time it proposes not to charge rent for its mobile and immobile military property and installations but to compensate Kazakhstan for it by providing diverse services in the space system—geodesic, navigational, topographic—and providing satellite channels of communication and management, television and radio broadcasting, and to train specialists in space rocket technology for the republic.

Russia and Kazakhstan intend to resolve the question of Baykonur's military construction units as well. They are now under Almaty's jurisdiction—which has led to a sharp reduction in their complement from 30,000 to 5,000 and in officers from 2,500 to 600, to the curtailment of a number of very important jobs, and to disturbances and revolts in the course of which considerable material harm has been caused to the cosmodrome.

Russia proposes transferring these units to the military space forces and turning them into repair and reconstruction units which will not only meet the needs of spaceflight development but also comprehensively serve the life of the city of Leninsk, the cosmodrome's center.

The problem of resettling from that city the 1,116 families of officers who have been transferred to the reserve is also no less acute. Precisely 759 of them are citizens of Russia, for whom it has allocated 40 million rubles for the construction of new housing. Precisely 35 are representatives of Kazakhstan, which also intends to construct housing for its citizens.

Ukraine and Belarus (they have 238 and 84 citizens respectively at the cosmodrome) have not yet allocated a single kopek for these purposes, and it is not clear where their people are to go and where they are to find shelter. Former officers and ensigns are not receiving pensions due to them.

These questions must be agreed on by the government delegations before the presidents of Russia and Kazakhstan meet. The meeting is planned for the very near future, Pavel Grachev said.

He also told journalists of another item of news for officers and ensigns. The Finance Ministry's planned suspension of a number of provisions of the Russian law "On the Social Status of Servicemen" and the 15-percent reduction in the military budget by cutting social benefits for servicemen have not been approved by the president and the prime minister. The law will be fulfilled in full.

CHEMICAL AND BIOLOGICAL WEAPONS

Ukrainian Spokesman on Detained Strategic Chemicals

WS0907135693 Kiev HOLOS UKRAYINY
in Ukrainian 7 Jul 93 p 3

[Statement by Dmytro Tabachnyk, press secretary of the Ukrainian Cabinet of Ministers, made in Kiev on 5 July]

[Text] Some time ago, reports appeared in government institutions and the mass media of Ukraine, the United States, Germany, and other states, regarding the detention by Ukrainian custom officials at the port of Illichevsk of four containers transported from Russia via Ukraine. The containers were filled with ammonium

perchlorate—a substance that can be used as a component of solid rocket fuel. According to international laws, such substances are subject to special supervision. The load was shipped by one of the chemical plants in Novosibirsk Oblast to the Bulgarian port of Varna under a contract with a German firm.

The shipment was detained by Ukrainian officials due to a lack of necessary documents as stipulated by international laws for this category of material. Furthermore, the Ukrainian Government had received official information containing certain facts and expressing alarm over the possible destination of the shipment—a country subjected to UN sanctions. At the same time, the originator of the load—the foreign economic joint stock company Pavoks from Moscow—rejected any connection of the load to military production. However, to date, the company has not presented the final destination certificate. The Ukrainian Government Committee for Export Control has banned shipping the containers until a final clarification of all the details of the affair is made. A conversation with the German ambassador has been held at the Ukrainian Foreign Ministry, prompted by the fact that a German firm was named as the addressee of the shipment.

With regard to the aforementioned facts, I want to state that while resolving this issue, the Ukrainian Cabinet of Ministers will strictly observe the norms of international law and use all means to strengthen the atmosphere of peace, security, and mutual trust among the countries of the world community; and will observe all the UN sanctions.

I find it important to underline this because unsubstantiated reports and overt fabrications have been repeatedly appearing in foreign media regarding the policy of Ukraine and its government. Unfortunately, even such respected publications as the English OBSERVER sometimes use these means. Some time ago, it reported about Ukraine selling eight guided missiles to Iran, and then, at the demand of our embassy, had to publish a refutation. All this does not help develop civilized international relations.

The Ukrainian Government will continue efforts to explain its policy and support peace and good-neighborly relations within the world community.

Problems With Destruction of Chemical Weapons

OW0107060793 Moscow Russian Television and Dubl Networks in Russian 0527 GMT 18 Jun 93

[Igor Deryugin video report; from Transrosefir's "Saratovskaya Moazaika" program; fair reception; figures in parentheses indicate GMT time in hours/ mins/secs]

[Excerpts] [053540] The next chapter of our program will tell about a certain aspect that had remained top secret until very recently. Lately, it underwent such a drastic change that today, even the people most familiar with the issue are unsure about a lot of things about it.

Many shots appearing in this item were filmed in spring, but the subject has not become any more lucid since then.

A place called Shikhany is located one and a half hours from Saratov. It is the former property of Count Orlov, and its history under Soviet rule was a peculiar one. The Soviet leadership adopted a series of secret documents in 1925 that have guided the fate of Shikhany up until this very moment. Since then, the lives of all residents of this quiet place have been connected somehow to chemical weapons. [053604]

[Video shows maps of area, shots of its prerevolution appearance, documents testifying to Russian ties to Germany in the 1920's, shots of buildings with smokestacks] [053645] The first tests were carried out here by the Germans, who were the forerunners in this field in the 1920's. A top secret agreement on the creation of a testing site with well-equipped laboratories and a solid scientific and industrial foundation was signed with them. The Germans built 13 different facilities, which remained intact after the joint treaty was dissolved in the 1930's and the Germans subsequently departed [053652]

[Video shows laboratory, chained dogs in steel and glass containers, personnel at work in front of computer screens and microscopes, various electronic devices, chemicals being mixed] [053800] Today, very little in Shikhany remains from the German period. Shikhany has become a huge military-scientific complex, which includes an institute where new chemical armaments were developed, a military testing site where they were tested, and living quarters with a population of 15,000. Only recently has the veil of secrecy begun to slip from this place, and it had to do with the new twist in the fate of Shikhany. A convention banning chemical weapons was signed by representatives of more than a 100 states in Paris on 13 January 1993. Russia's obligations were outlined in the state draft program for the destruction of chemical weapons, and Shikhany was mentioned there. However, the military personnel and the scientists working here have more questions about the program for the destruction of chemical weapons—which was sent back for a great deal of additional work after parliamentary hearings—then they have ready answers. [053804] [passage omitted] [053910]

[Video shows a device in a laboratory, an officer operating it, a person in military chemical warfare protective gear exercising on a treadmill, soldiers shooting shoulder-launched missiles in snowy field, unidentified outdoor structure, shots of military-scientific complex] [053919] This is an experimental device that is used to develop one of the possible technologies for processing lewisite—a toxic substance that blisters skin. However, this is only an experiment, which demands a great deal of time. Experts admit that there are no tried technologies today. A stage-by-stage processing of lewisite into pure arsenic, which promises significant profits, is the target

of very intense research. A kilogram of pure arsenic is valued at \$2,500 on the international market. The taste of arsenic dollars can make one dizzy, but it goes without saying that the commercial factor should never obscure the ecological aspects and the problems of safety. Technologies for destroying other types of chemical weapons such as mustard gas, mixtures of mustard gas and lewisite, and organic phosphorus substances are even less developed because they promise no financial gain. Therefore, forecasts made by Aleksandr Kochergin, director of the State Institute for Technology of Organic Synthesis and one of the most competent people in this sphere, are not very optimistic. [054021] [passage omitted] [054047]

Strategic and military problems are closely connected to the strictly civilian ones. After all, Shikhany is also a town where 15,000 people live. [054100] [passage omitted] [054128]

Today, the town is in disastrous shape. Most of the buildings here are wooden barracks, where inhabitants still cook their food on kerosene stoves. The administration of Shikhany is fighting to obtain for the town the status of a site for developing technologies for destroying toxic substances. This should provide the residents with a system of compensations and privileges for living in this special zone.

Commander of Shikhany CW Center Interviewed

*PM1207093793 Moscow KRASNAYA ZVEZDA
in Russian 1 Jul 93 p 2*

[Interview with Major General Valeriy Danilkin, chief of the Russian Federation Ministry of Defense Central Scientific Research Institute at Shikhany, by Senior Lieutenant Vladimir Mokhov under the "Declassified" rubric; place, date not given: "Shikhany"—first paragraph is KRASNAYA ZVEZDA introduction]

[Excerpts] The phrase "Shikhany military facility" first came from the pens of journalists who visited the heart of our military chemical complex in 1987 together with many foreign delegations. At the request of our editorial office, Major General Valeriy Danilkin, chief of the Russian Federation Ministry of Defense Central Scientific Research Institute or the Shikhany military facility, talks about what it represents today. Valeriy Ivanovich has occupied this post since 1990. He is a candidate of military sciences and has served in various command and engineering and scientific and pedagogical posts.

Mokhov: Valeriy Ivanovich, until just recently the Shikhany military facility has been shrouded in secrecy. Probably all that the public knew was that some kind of work on chemical weapons was carried out here. Which is why there has been the most farfetched conjecture. What in actual fact is Shikhany?

Danilkin: I must first of all point out that a whole science and production complex existed and continues to exist here. It has two constituent parts. Shikhany-1 (Volsk-17) is a science and production association which until very recently came under the Ministry of the Chemical Industry. Officially it is the State Institute for Organic Synthesis Technology. There is a small experimental plant attached to it.

Shikhany-2 (Volsk-18) is a specifically military facility and accounts for about 40 percent of Shikhany's population. It is also called No. 2 area or No. 2 housing zone.

The heart of the facility is the institute with its test range. There is a section at the institute which carries out operations. Next door to it is a mobile regiment to eliminate the effects of accidents at facilities which pose a radiation or chemical risk. Both these sections are the direct responsibility of the commander of the Russian Ministry of Defense Radiological, Chemical, and Biological Protection Troops. Here in Shikhany there is a specialized hospital which it is planned to convert into a treatment and diagnostic center within the framework of the program for destroying chemical weapons. [passage omitted]

Mokhov: What do the military chemists do now?

Danilkin: Now, as before, their main energies and resources are invested in defense work. To create protection against nuclear, chemical, and bacteriological weapons. Apart from this we were and still are involved in developing flamethrower and incendiary devices and also in questions of aerosol camouflage—this is now known as high-precision weapon countermeasures. So the institute's main potential has always been directed toward protective work. But last year one of the scientific directorates was switched to scientific and technical studies on destroying chemical weapons.

Mokhov: Does that mean that the "Shikhany military facility" has a secure future?

Danilkin: It is difficult to look into the future, but there is some hope. Similar facilities exist in the majority of the world's leading countries. Apart from this, we are faced with most important tasks. We are to be involved in guaranteeing the Convention on Banning Chemical Weapons. By monitoring the future situation abroad—both in countries which have signed the convention and in those which have not become party to it or have not yet ratified it. Chemical and bacteriological weapons are such complex things that people have to meet face to face...

Our second extensive task is still connected with protection across the whole range of problems we deal with. The third area is scientific and technical support for the program to destroy chemical weapons. You can only guess what tasks the institute will be set after the program is confirmed. But for the moment we are engaged in assessing technology, screening former locations

where chemical weapons were destroyed, and ensuring reliable storage for them, in accordance with the state order.

Mokhov: Valeriy Ivanovich, people are alarmed in various regions today: They are saying that facilities in the military chemical complex are causing irremediable damage to the environment. How safe is your facility from the ecological point of view?

Danilkin: People have attempted to portray us too more or less as poisoners of the country of many years' standing. I have heard all sorts of fairytales. Certain local deputies and journalists have taken a hand in this. The assessments ranged at times from the simply incompetent to the blatantly false. But let us be guided not by conjecture but by concrete facts. We are ready to present to our opponents any of a whole range of arguments. From simple explanations to the taking of samples to test levels of contamination and the spread of any contaminant in the air, soil, or water.

However, I must make the proviso here that a test range is a test range. It is a special military chemical facility at which work necessary to maintain the country's defense capability has been and will, I hope, continue to be carried out. But, in the first place, it is carried out on a very limited scale. Second, this takes place at specially equipped sites beyond which nobody can go. We guarantee this. What is more, there are exclusion zones around these sites, protective measures, and monitoring. The test range works in accordance with its guidelines, and we are prepared to assist in removing and analyzing any samples inside its perimeter. Incidentally, the Saratov Oblast Environment Committee has already done this. What were the results? They found nothing. Incidentally, we are also fighting for the environment ourselves. We are participating in scientific studies and monitoring—in showing up the real polluters of the environment and in making specific recommendations.

Mokhov: You nevertheless noted that a test range is after all a test range. The people who work here are deprived of many things which, say, residents of big cities have. How are social questions resolved in Shikhany?

Danilkin: They have long since become social problems. The lists of people waiting for housing have grown several times over. Recently about 200 families arrived at the military base. Many of them from Central Asia, where two chemical test ranges were disbanded and eliminated. Shikhany has become a sort of "Noah's Ark" for military chemists from all over the former USSR. People are arriving all the time.

True, the pace at which housing is being built is encouraging. In December of last year a 76-apartment block was handed over to us. One more is being built, into which 80 families will move. A 70-apartment "small family block" is being put up, together with 20 cottages. In addition, the commander of the Russian Ministry of Defense Radiological, Chemical, and Biological Protection Troops has allocated funds to build two blocks in

Saratov. Some of the apartments will be earmarked for retired officers from Shikhany, who will free up accommodations at the military base. All this will to some degree alleviate the problem. But it has clearly long been time to raise the question of developing a comprehensive program to develop the Shikhany military facility. Particularly from a social point of view. The military chemists cannot unravel this tangle on their own.

WEAPONS CONVERSION

Officials Discuss Defense Industry Issues

*LD2906223193 Moscow Russian Television Network
in Russian 1948 GMT 29 Jun 93*

[Feature by commentator Yelena Ozrina on Russian defense industry issues conference, with interviews in the Kremlin with O. N. Soskovets, Russian vice premier, and A. A. Kokoshin, Russian first deputy defense minister; from the "At the Russian Supreme Soviet" program—live or recorded]

[Text] Ozrina: A great deal of work is going on today in the building of the Supreme Soviet of the Russian Federation. The chambers—the Soviet of the Republic and the Soviet of Nationalities—are sitting. But apart from that two conferences are taking place which are, in my opinion, very interesting. One of them is taking place in this hall here. [video shows Khasbulatov addressing conference; Ozrina standing on Kremlin stairs]

The heads of defence enterprises have assembled for this conference. They are going to discuss the question of the progress of conversion and the preservation of advanced technologies in enterprises of the defense complex of the Russian Federation. Ruslan Imranovich Khasbulatov, chairman of the Supreme Soviet of the Russian Federation, delivered the opening speech at this working conference.

Those invited to this conference include not only the leaders of defense complex enterprises but also members of the government.

[addressing Soskovets] What is your assessment of the need to hold this conference and what are the real problems of what we call the military-industrial complex [MIC]?

Soskovets: I think that this conference is one more method of exchanging opinions which have been expressed by the directors, by the government and in the report which I delivered here. We understand the problems which exist today in the enterprises of the defense complex and in the Defense Ministry. They are quite complicated ones in view of the fact that the processes in the economy are proceeding with some difficulty. I am referring to the transformation of the economy in market conditions. Therefore, I consider that the exchange of opinions which is now taking place at the conference is quite constructive. An understanding of the problems

and processes which are taking place in the MIC will allow us to take decisions that will alleviate and improve the prospects of the enterprises, and strengthen rather than destroy the economy.

Ozrina: The title of the conference speaks about new technologies, about the preservation of advanced technologies but it is also a question of preserving the personnel and preserving the scientific elite which used to work and which still works but which, perhaps, will not work in the future, judging from the article published by Academician Abrikosov in *IZVESTIYA*. And so, what about cadres and the MIC?

Soskovets: Any technology is untenable without cadres. So, in the first instance, it is intended to preserve the scientific and production potential of enterprises and scientific organizations. This is a rather difficult task but, nonetheless, it needs to be resolved in these conditions.

Ozrina, addressing Kokoshin: What is your opinion of the elite cadres which used to work in the MIC which used to have everything—they had money, they had expensive experiments. Now, there is not much money. And so, I repeat the question: What about cadres and the MIC?

Kokoshin: Well, cadres are needed both to fulfill defense orders and also to organize the large-scale production of hi-tech civilian production. And of course, it is our sacred duty to preserve these cadres. As yet, very little has been done to ensure this. In the past, of course, the situation was far from ideal. It should not be idealized. In fact pay in the defense complex was not much higher than the industrial average. But the provision of resources and the provision of the experimental basis, say, in science and in design bureaus was considerably better than the industrial average.

At present, however, the task is to make really advantageous use of what accumulated there, and not only for defense orders. The Defense Ministry is vitally interested in ensuring this, because if Russia as a whole has a powerful industry and cadres, then defense orders also will be fulfilled.

Ozrina: What about opportunities for breaking into the market, the western market, the American market, with the developments and the advanced technologies that exist?

Soskovets: It is necessary to fight for the market. No one is particularly waiting for us in the market, because the market means, first and foremost, competition. We will try to create a precedent in which our output, our industry, will be competitive.

Ozrina: Tell me, please, what about the big market and the air show at Le Bourget? The immense possibilities of the aircraft industry have been put on display. Does that allow us into the market, and what are the prospects as far as that is concerned?

Soskovets: Well, you know, in the market, one will have to elbow partners aside. So the situation is quite difficult. The equipment that today has features that are superior to its foreign counterparts will, of course, be in demand among our partners. I mean the purchasers of our military output. The marketing conditions have to be created with skill.

Ozrina: The last question: the state order in the military-industrial complex, the correlation between free flight and the state order?

Soskovets: It is determined by the presence of financial resources.

Ozrina: What is it like now, roughly?

Soskovets: It's hard to say.

Ozrina: It depends on the enterprise?

Soskovets: Yes, on the enterprise, of course, and on how the Defense Ministry selects its priorities as regards armaments.

Ozrina: Is the Defense Ministry doing that?

Kokoshin: Yes, in general, we already have, on the whole, an armaments program up to the year 2000 and beyond for many types of output, and up to 2010. But its adoption is, of course, being delayed by the lack of clarity as regards the economic situation in the country as a whole, since the whole structure and even the armaments system, the armaments program, depends on allocations on which we can count. On the whole, of course, we hope for the retention, at the very least, in the immediate future, of the level of the defense order that exists—in its physical expression, I mean—and for a certain growth in it during the next few years, as soon as the economic situation stabilizes. But what I consider to be absolutely essential to do in the immediate future is to increase the allocations for research work and for research and development work.

NUCLEAR TESTING

Russian Media on Nuclear Test Moratorium

Yeltsin Announces Moratorium Extension

*LD0207082293 Moscow Mayak Radio Network
in Russian 0700 GMT 2 Jul 93*

[Text] In a brief statement to journalists, Russian President Boris Yeltsin has announced that he intends to extend the moratorium on tests of the nuclear weapons, which expired on 1 July. However, Yeltsin specified that moratorium will be extended only if other nuclear powers do the same.

Yeltsin Statement to Talbott

*LD0307122793 Moscow ITAR-TASS in English
1146 GMT 3 Jul 93*

[By ITAR-TASS]

[Text] Moscow July 3 TASS—President Boris Yeltsin received Strobe Talbott, special adviser to the U.S. secretary of state for CIS affairs, in the Kremlin on Saturday.

They discussed matters connected with the forthcoming meeting between the Group-of-Seven leaders and Russia in Tokyo, the presidential press service reported.

Bilateral Russian-U.S. relations were touched upon as well.

Mr. Talbott delivered Bill Clinton's message to Boris Yeltsin. The message, referring to accords between the presidents of Russia and the U.S., conveys a U.S. intention to extend the moratorium on nuclear tests until September 1994.

Yeltsin reaffirmed Russia's principled stand that Russia would observe the announced moratorium until any other moratorium—observing nuclear state resumes tests.

Moscow Radio Commentary

*LD0207165193 Moscow Radio Moscow World Service
in English 1110 GMT 2 Jul 93*

[Commentary by Yuriy Solton]

[Text] President Boris Yeltsin has stated that Russia is in favor of expanding the moratorium on nuclear weapon tests. Here is what Radio Moscow news analyst Yuriy Solton writes:

For the past two and a half years there has been no testing at the nuclear testing sites of the former Soviet Union, and now of Russia. Boris Yeltsin's statement that Russia will not be the first to resume the tests confirms Moscow's principled stand on the issue and it boils down to the following.

Today, when the former potential enemies are becoming partners the testing of nuclear weapons under any pretext is senseless. This could only retard the process of nuclear disarmament, undermine the regime of nuclear nonproliferation, and increase the suspicion of the Third World countries, which are already now very unhappy about the nuclear monopoly of the five powers. That is to say nothing about the fact that even underground nuclear explosions are a threat to people's health and do big damage to the environment.

Moscow's stand in many respects is shared by Paris. Encouraging news also comes from Washington. The official nine-month U.S. nuclear freeze expired on 1 July. However, there are many signs showing that the Administration of Bill Clinton is inclined to extend it. That in turn will make Great Britain, which uses the

American nuclear testing site in Nevada, suspend its testing programs. It is also very important that the question of a universal nuclear moratorium will be discussed by the leaders of the world's seven industrial powers in Tokyo next week. Russia's President Boris Yeltsin will also take part in the meeting. To my mind there has never been such a good opportunity as there is today to start preparing a comprehensive treaty on banning all nuclear weapons tests. It is only to be hoped that advantage will be taken of this opportunity.

Adherence to Nuclear Test Moratorium

*LD0107115093 Moscow Radio Rossii Network
in Russian 1100 GMT 1 Jul 93*

[Text] Russia will not be the first nuclear power to stop complying with the moratorium on nuclear tests. Although China has not undertaken the obligations of the moratorium, Moscow will not renounce it as long as France, the United States, and Britain do the same. Sergey Yastrzembskiy, director of the Information and Press Department of the Russian Ministry of Foreign Affairs, said this in an interview for the INTERFAX agency. In his words, the very fact that four of the five nuclear powers are adhering to the nuclear test moratorium is unprecedented and has undoubtedly gained broad support throughout the world.

Foreign Ministry Quoted

*LD0207140893 Moscow ITAR-TASS World Service
in Russian 1307 GMT 2 Jul 93*

[By ITAR-TASS diplomatic correspondent Aleksandr Krylovich and Aleksandr Smelyakov]

[Text] Moscow, 2 July—The achievement of a verifiable international agreement on the complete prohibition of nuclear tests is the goal of Russian diplomacy. This was stated today by Sergey Yastrzembskiy, Russian Foreign Ministry information and press department head, in connection with Russian President Boris Yeltsin's statement on his decision to extend the moratorium on nuclear tests as long as it is observed by other nuclear states. The Russian diplomat noted that the moratorium on nuclear explosions introduced by the Russian president almost two years ago, and the fact that other nuclear states have not carried out nuclear tests recently, have created a favorable situation for the start of serious talks for the development of agreements on the complete prohibition of tests. At the same time, the Russian side takes into account the task of strengthening the nuclear non-proliferation regime. At a time when preparations are being made for holding a conference on extending the validity of the nuclear Non-Proliferation Treaty, responsible actions by nuclear powers have a particular significance, Sergey Yastrzembskiy stressed. He reported that, in the opinion of the Russian Foreign Ministry, a course agreed by all nuclear powers should be developed as regards the steps leading to an agreement on a complete prohibition of nuclear tests. Consultations between nuclear powers about this should be held in the

very near future. Russia is ready to begin bilateral consultations with the United States and also begin serious talks at the Geneva disarmaments conference on preparations for a multi-lateral agreement on the complete prohibition of nuclear tests.

Speculation on Full Test Ban

*LD0607130093 Moscow ITAR-TASS World Service
in Russian 1200 GMT 6 Jul 93*

[By ITAR-TASS correspondents Aleksandr Smelyakov and Vladimir Suprun]

[Text] Moscow, 6 Jul (TASS)—Russia is prepared to conduct negotiations on comprehensive nuclear test ban, stated at a briefing today Sergey Yastrzembskiy, director of the department of information and press of the Russian Federation Foreign Ministry.

He pointed out that the Russian Federation welcomes the decision of the U.S. President to extend the moratorium on nuclear tests until September 1994, provided that other countries also refrain from these tests. Incoming information on feedback from other nuclear countries also inspires optimism.

Yastrzembskiy stressed that this creates favorable conditions for starting serious multilateral negotiations on a complete ban on nuclear tests. "We are ready for such negotiations, and we believe that for these purposes it would be advisable to use the mechanisms that already exist in Geneva, namely consultations among the five nuclear powers and the special committee for banning nuclear tests, which operates in the framework of the Conference on Disarmament. This committee should be vested with an appropriate mandate for negotiations. We are also prepared to conduct bilateral consultations with the United States," Sergey Yastrzembskiy stated.

The Russian diplomat noted that Russia's position on the issue had been made known to all the members of the "nuclear club," including Beijing.

Columnist Views Situation

*PM0707105993 Moscow KRASNAYA ZVEZDA
in Russian 7 Jul 93 p 3*

[Mikhail Pogorelyy report: "Chain Reaction of Nuclear Disarmament the Guarantee of a Nuclear-Free World"]

[Text] The decisions by the presidents of the three members of the "nuclear club," which passed hardly noticed against the background of the many tumultuous events last week, may nevertheless be a very substantial step along the path toward a nuclear-free world. The decisions in question are those made by the leaders of the United States, Russia, and France to extend the moratorium (unilaterally adopted by each country and lasting so long as the pledges are not violated by any other side) on underground nuclear test explosions.

Preparations are now in hand for the conclusion in 1996 of a multilateral international agreement on a complete ban on such tests. But why leave till tomorrow what you can begin today? For a year now all the great nuclear powers have actually been refraining from staging any underground mini-Hiroshimas. Such attitudes by the leaders of Russia, the United States, France, China, and Britain, although technically unilateral, are in practice interconnected and depend on the good will and true intention of the leaders of the great powers to free the world from the prospect of a relaunch of the nuclear arms race.

This is no exaggeration. It is well known, after all, that test explosions are carried out not only to verify the reliability of existing arsenals but also to develop new arms. The statistics on this matter are of course secret but it is obvious that between one-third and one-half of all explosions—whether in Nevada or on Novaya Zemlya—serve the creation of future types of nuclear weapons. Thus, stopping this process inspired the world public to hope that the major agreements aimed at reducing the superpowers' stockpiles of weapons of mass destruction will be strengthened by a ban (or at least a significant limitation) on the development of new and even more lethal types of weapons.

It goes without saying that the military leaders feel happier when they are really sure of the reliability of the arsenals in their charge. From that viewpoint you can understand their desire to hold—at least before 1996—two or three "small" explosions a year. But the reality is that a deviation from a firm ban by one side inevitably sparks a corresponding reaction from the "near-nuclear" or "five minutes to nuclear" states—why is it acceptable for Britain or Russia and not for India, Pakistan, or Israel? On the other hand the firm pursuit of the course toward a non-nuclear world will inevitably trigger a chain reaction (sustained, it is planned, by a basis of international law, furthermore) of rejection and ban on the development and production of nuclear arms with the equally inevitable result that they will be eliminated.

Even from the purely technical viewpoint the world will not be able or have the time to enter the third millennium free of the nuclear arsenals. But we can—if we really want to—go into it with the firm determination to transform it into a nuclear-free era.

Yeltsin Aide Interviewed

*MK0307094093 Moscow NEZAVISIMAYA GAZETA
in Russian 3 Jul 93 p 2*

[Dmitriy Gornostayev report under "Nuclear Weapons" rubric: "It Is Impossible To Stop Nuclear Tests, Believes Chief Analyst at Russian Federation President's Analytical Center"]

[Text] The term of the nuclear test moratorium announced by Russia, the United States, and France expired 1 July. On the same day Russian Federation President Boris Yeltsin made a decision that Russia

will not be the first to resume tests. While possibilities for extending the moratorium remain, it might seem that favorable conditions have emerged for making it permanent.

It would hardly be possible, however, to reach agreement in the near term on fully ending nuclear tests, believes General Aleksandr Vladimirov, chief analyst at the Analytical Center on Socioeconomic Matters under the Russian Federation president. The idea of nuclear deterrence has until now been the basis of U.S. and Russian military doctrines. Yet there is no sense any longer in relying on the idea of causing assured damage on large territories; that is to say, there is no need to have large, multi-kiloton charges since priority in the sphere of nuclear technology belongs to the development of high-precision types of weapons to strike at specified targets. In the place of seven old types of missiles, under the START II Treaty two to three types of single-block missiles will be created, which will call for the development of new warheads, which in turn will cause the need to test them.

General Vladimirov also stressed that as long as there is a danger of new members joining the nuclear club, first of all Iraq, none of the nuclear states will venture to fully stop tests and nuclear development projects. These countries which bear the largest responsibility for maintaining a new world order need corresponding structures, in other words a global security system, whose foundation, according to Vladimirov, will be made precisely by the nuclear club in its present composition. In the future, the general said, a single common testing site could be created in the interests of all nuclear powers. Whether this will be "Semipalatinsk, Nevada, or one of the African deserts," Vladimirov said, is not clear yet.

IZVESTIYA Speculation Before Yeltsin Announcement

*PM0607082993 Moscow IZVESTIYA in Russian
2 Jul 93 First Edition p 3*

[Aleksandr Sychev article: "Nuclear Test Moratorium Has Ended. Ranges Are Still Quiet"]

[Text] Rjukan-Moscow—The moratorium on nuclear tests announced by Russia, France, and the United States expired 1 July. This day has every chance of going down in history either as the day a decisive step was taken away from nuclear madness or as a day of missed opportunities.

Two major international conference held by the Russian Peace and Accord Federation in Moscow and by the Norwegian Consultative Council on Arms Control and Disarmament in the town of Rjukan, known for its plant for the production of heavy water, were devoted to the banning of nuclear tests and the closely associated problem of the nonproliferation of nuclear weapons. Incidentally, it was at this plant during the war years that

Norwegian patriots carried out sabotage, thanks to which fascist Germany did not have time to acquire nuclear weapons.

It is no coincidence that the world public devotes such close attention to what might happen after 1 July. A great deal has changed since the nuclear ranges fell silent. Today it is a question of the need to conclude a treaty not only on a total ban on nuclear explosions, talks on which the U.S. and Russian presidents promised to embark upon at their meeting in Vancouver, but also on their nonresumption. As is known, Russia and France have expressed readiness not to commence nuclear tests until one of the five nuclear powers conducts an explosion first. China, while not adopting any pledges, has so far refrained from testing. Britain is conducting its own work under the program for creating the Trident systems on a U.S. range. So the maintenance of silence today depends totally on Beijing's position and President Clinton's decision, which is expected within a few days.

The Washington administration has three options: to extend the moratorium through 1 July 1994, extend the moratorium until someone carries out the first explosion, or carry out not the 15 tests permitted by Congress before September 1996 but nine. Former U.S. Defense Secretary James Schlesinger, who attended the Rjukan conference, assumed that Clinton would prefer the second option. Without going into the nuances, THE WASHINGTON POST recently cited sources in the administration as reporting that the President is tending toward extending the moratorium.

The danger of the first explosion after the moratorium, whoever carries it out, consists in the fact that it will cause a chain reaction. It will free the other nuclear powers from moral obligations—which will undermine the nuclear nonproliferation regime and lead to an arms race, in which the so-called "near-nuclear" states will join. Among them I should, above all, single out Israel, India, and Pakistan, which are in zones with an increased threat of an outbreak of war.

The 25-year term of the Treaty on the Nonproliferation of Nuclear Weapons, which has been signed by 157 states, will end in March 1995. They will all gather for a conference to resolve the question of extending the treaty and, if so, for what period. The conference held in 1990, by the way, ended in failure because of the position of the United States, which refused at the time to hold talks on a total test ban. Washington's

present agreement to embark on talks if explosions are resumed, even in the form of a limited series, will most likely not save the treaty.

More than two-thirds of the parties to it belong to the group of countries of the Nonaligned Movement, which accuse the nuclear powers of using delaying tactics on the question of tests in an attempt to keep their monopoly on nuclear weapons. Just a simple majority of 79 votes is required to decide the fate of the treaty and, along with it, that of nuclear disarmament and all civilization. Which way the scales will be tipped today depends, as the appeal adopted at the forum held in Moscow states, on whether the nuclear powers adopt a pledge not to be the first to resume explosions and to begin talks without delay on the total cessation of nuclear tests everywhere.

U.S. Decision To Extend Nuclear Test Moratorium 'Welcomed'

*LD0607131393 Moscow ITAR-TASS in English
1219 GMT 6 Jul 93*

[By ITAR-TASS diplomatic correspondents Aleksandr Smelyakov and Vladimir Suprun]

[Text] Moscow July 6 TASS—Russian [as received] welcomed the US decision to extend the moratorium on nuclear tests until September 1994 and said it is ready for negotiations on a complete nuclear test ban.

Foreign Ministry Spokesman Sergey Yastrzhembskiy told reporters on Tuesday that the US decision "was positively apprehended [as received] in the Russian Federation." Response from other states also inspires optimism so far, he said, adding that thus "favourable conditions are being created for serious negotiations on a multi-lateral basis on a complete ban of nuclear tests."

"We are ready for such negotiations and believe that the existing Geneva mechanisms should be used for the purpose—consultations of the five nuclear powers and the special committee on nuclear test ban of the disarmament conference," Yastrzhembskiy said, adding that the committee should be authorised to hold such negotiations.

"We are also ready for bilateral consultations with the United States," he added.

The spokesman said that the Russian position on the issue had been forwarded to all members of the "nuclear club," including Beijing.

FRANCE

Paris Joins U.S., Russia in Extending Moratorium on Nuclear Testing

Announcement

LD0407093393 Paris France-Inter Radio Network in French 0900 GMT 4 Jul 93

[Text] France will continue its moratorium on nuclear testing. A communique to this effect was released by the Elysee Palace this morning. It says that France confirms that it favors a treaty setting a complete ban on testing, on condition that it be universal and monitorable. France also says that it is in favor of an unlimited extension in 1995 of the nonproliferation treaty of which it is a signatory.

Varied Response

LD0807090993 Paris LE MONDE in French 6 Jul 93 p 24

[Unattributed report: "France Extends Moratorium on Nuclear Tests"]

[Text] The Presidency of the Republic announced in a communique Sunday 4 July that it is "in favor of a treaty for a complete ban on (nuclear) tests, on condition that it is global and verifiable." Just 24 hours after American President Bill Clinton's statement announcing—even though a resumption of American and British tests was expected—that he had decided to extend the moratorium "at least until the end of September next year," Paris is now following Washington, London, and Moscow, which announced 1 July that it is in favor of suspending its tests.

The Elysee Palace document, which, as Prime Minister Edouard Balladur pointed out on France 2's "L'Heure de Verite" program, he drew up jointly with the president, stresses that France "will make sure that its deterrent capability is maintained in the face of any advances in technology." The prime minister emphasized this point, saying that it is necessary that the French nuclear force "be sufficient in all circumstances."

To this end Messrs. Mitterrand and Balladur have decided to establish "a group of very high-level military and scientific experts" responsible for ensuring that the French nuclear forces do not suffer as a result of this halt, "the duration of which cannot be specified now." What is at stake here is the modernization and development of the new weapons already decided on by that the government and armed forces' staffs.

First and foremost, experts have said that a program of "test expositions" is necessary in order to assess and approve the planned new lighter and stealthier TN-75 nuclear warhead designed to equip the future M 45 missiles on the submarine, "le Triomphant," in 1995. At least two tests should be carried out to achieve this, they believe.

According to Roger Baleras, director of military applications [DAM] at the Nuclear Energy Board (CEA), further tests are needed to develop the explosive charge of the long-range air-to-surface missiles carried by the Rafale. As in the case of some American weapons, this should be an "adjustable energy" charge so as to deliver a destructive power appropriate to the particular target.

Last, there is the M 5 missile designed to arm the new generation of strategic submarines. However, this weapon is less likely to suffer as a result of the French Government's decisions, because a postponement of tests would not have much impact on a system that is not due to become operational until 2005.

Of course, some people believe that it is now possible to do without such full-scale tests and to confine ourselves to simulations, as the CEA plans to do through the PALEN (preparations for the limitation of nuclear tests) program. But the DAM nevertheless believes that a small number of tests is still necessary in order "to confirm the suitability of the models and to adjust simulation parameters."

This theory is espoused by Jacques Baumel, RPR [Rally for the Republic] deputy chairman of the National Assembly Defense Committee, who protested the decision by a prime minister "who cites Gaullist arguments with regard to nuclear deterrence" and stressed that "the reduced budgets of the PALEN program will not resolve the problems."

"It is a very bad decision," he said, "because in this field we are not in the same position as the Americans, who have completed their test programs. So we need to develop our future weapons and not to diminish our effort, at a time when we are witnessing increased nuclear proliferation in certain countries." This opinion is shared by, among others, the RPR's Patrick Balkany and the UDF's [Union for French Democracy] Arthur Paecht. These arguments are bound to feed the controversy when it comes to renegotiating the test ban treaty, of which France "is in favor of an unlimited extension in 1995." For its part, Generation Ecologie welcomed the government's decision. "It is now or never," it said. "Either the world topples into proliferation, or the major powers set the example."

Resumption of Tests Not Ruled Out

AU1207144993 Paris AFP in English 1415 GMT 12 Jul 93

[Text] Paris, July 12 (AFP)—Defence Minister Francois Leotard on Monday [12 July] refused to rule out the possibility that France might resume nuclear tests this year despite its recent decision to maintain a moratorium.

Asked in an interview with AFP whether tests could resume before the end of 1993, Leotard replied: "Formally, nothing is ruled out."

He said he thought it would be "very unfortunate" if France were to change its stance of total autonomy on the issue, which it has maintained for 35 years.

France announced on July 4 that it would extend its moratorium on nuclear tests after the United States said it would not resume nuclear testing before September 1994.

Further Report

*PMI407150293 Paris LE MONDE in French
14 Jul 93 p9*

[Unattributed report on interview with French Defense Minister Francois Leotard by AFP on 12 July; date not given]

[Text] In an interview for AFP 12 July, French Defense Minister Francois Leotard did not rule out the possibility that France might resume its nuclear tests before the end of the year.

When asked: "Is it ruled out that there might be tests this year?" he replied: "Formally, nothing is ruled out." "For my own part," Mr. Leotard added, "I confirm that France must retain total decisionmaking autonomy, as it has done for 35 years now. It would be very regrettable if it placed itself under the supervision of or made itself dependent on any other country at all."

Questioned about the preparation of the 1994 budget and the draft military planning law, Mr. Leotard explained: "If the defense resources for 1994 are insufficient when most of the major programs are in the production phase, it will certainly be necessary to reconsider certain earlier choices, which will have consequences for industrial employment and, more seriously still, for the operational capabilities of our forces." "It is strange to have to state that as we leave the terrible memory of June 1940 further behind," Mr. Leotard added, "we seem to be repeating our old mistakes."

Nation Stops Dismantling Obsolete Nuclear Weapons

*AU0807113593 Paris AFP in English
1106 GMT 8 Jul 93*

[Text] Paris, July 8 (AFP)—France has temporarily stopped dismantling obsolete nuclear weapons as a cost-cutting measure, the weekly magazine Air and Cosmos Aviation International reports in its latest issue.

It said AN 52 nuclear bombs from Mirage IV, Jaguar and Mirage III fighters were again being stockpiled in specialised arms depots.

France had in recent years speeded up the withdrawal of its obsolete nuclear weapons. It was decided to take out of service all the AN 52 "final warning" bombs by 1991, instead of 1997 as originally scheduled, according to a defence ministry document published last March.

All the Pluton short range surface-to-surface nuclear missiles, taken out of service last year instead of 1994, will also eventually be dismantled, the document said.

GERMANY

Commentary Views U.S. Policy Toward Ukraine as 'Failure'

*AU0507174893 Berlin DIE WELT in German
5 Jul 93 p 4*

[Lothar Ruehl commentary: "Nuclear Power Ukraine"]

[Text] With 226 votes to 15, the Ukrainian parliament adopted a law declaring the former Soviet nuclear weapons and the nuclear armament plants as state property. Thus, the failure of the U.S. security policy has become apparent. Since the collapse of the Soviet Union, U.S. policy has focused on efforts to continue nuclear disarmament with Russia on the basis of the START agreements. This lead to the problem of how to treat Ukraine. Basically, Kiev has declared itself a "nuclear free country," while at the same time demanding "compensation" for the removal of 176 missile systems and 30 heavy bombers with 1,600 to 1,800 nuclear weapons. Ukraine also expected a security guarantee vis-a-vis Russia and the joint Ukrainian-Russian control of existing nuclear armament plants and nuclear weapons stores in Ukraine. Moscow rejected these ideas, and Washington submits only proposals that Kiev considers inadequate.

The most recent U.S. compromise offer for international control of these plants was basically accepted by President Kravchuk in May. Yet the vote of parliament now blocks any diplomatic solution. So far, there has only been conflict between Kiev and Moscow. However, now that the Ukrainian foreign minister has stated that the U.S. missile attack on Baghdad is changing the principle for nuclear disarmament and also affects the security of Ukraine, a new front has been established.

It is not clear what conclusion Kiev wants to draw from this thesis because one cannot seriously speak of a military threat by the United States. Rather, it looks as though pressure should be exerted on the United States in connection with the observance of the START agreements, that cannot be realized without Ukrainian participation.

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